Mass General Brigham
Health Plan

Medical Policy
Luxturna® (voretigene neparvovec-rzyl)

Policy Number: 034

	Commercial and Qualified Health Plans	MassHealth	Medicare Advantage
Authorization required	X	X	X
Not covered			

Overview

Voretigene is an adeno-associated virus vector-based gene therapy indicated for the treatment of patients with confirmed biallelic RPE65 mutation-associated retinal dystrophy.

Criteria

1. Criteria for Initial Approval - Documentation of all of the following are required:
    - Member has genetic testing results demonstrating biallelic variants in the *RPE65 gene* classified as likely pathogenic and/or pathogenic using American College of Medical Genetics criteria.
    - Member has confirmed evidence of viable retinal cells as determined by the treating physician (using non-invasive means such as optical coherence tomography imaging and/or ophthalmoscopy) including:
        a) An area of retina within the posterior pole of >100 µm thickness shown on optical coherence tomography; OR
        b) ≥3 disc areas of retina without atrophy or pigmentary degeneration within the posterior pole; OR
        c) Any remaining visual field within 30° of fixation as measured by III4e/V4e isopter equivalent; OR
        d) Measurable full-field light sensitivity threshold (FST).
    - Member is ≥ 12 months and ≤ 64 years old
    - Member has not previously received the *RPE65* gene therapy in the intended eye
    - Prescriber is a specialist or consultation notes from a specialist (e.g., ophthalmologist or retinal specialist) are provided
    - The treatment procedure will be performed at a designated Ocular Gene Therapy Treatment center

2. Concomitant Therapy
    - Recommend systemic oral corticosteroids perioperatively in each eye equivalent to prednisone at 1 mg/kg/day (maximum of 40 mg/day) for a total of 7 days (starting 3 days before administration of voretigene to each eye) and followed by a tapering dose during the next 10 days

3. Dosing and Administration
    - Subretinal administration of voretigene to each eye on separate days within a close interval, but no fewer than 6 days apart. Requests should include anticipated surgery dates for each eye.
    - Recommended dose of voretigene for each eye is 1.5×10^{11} vector genomes (vg), administered for each eye by subretinal injection in a total volume of 0.3 mL.

4. Duration of Therapy
    - Single administration in each eye

5. Monitoring
    - Safety monitoring at postoperative day 1, week 1, and month 1-2
    - An initial 90-day follow-up with documentation of initial response as well as long term monitoring at 3 years for clinical effectiveness and durability of response is required for MassHealth members.
    - The following modalities may be used to monitor clinical effectiveness and durability of response:
        - Full-field light sensitivity threshold testing scores at baseline, 30-90 days, and at 30 months (when available) for members who are able to perform this test at baseline.
        - Multi-Luminence Mobility Testing (MLMT) score change from baseline at Year 1.
        - Visual Acuity and Visual Field Testing

6. Contraindications/Exclusions
    - Member has undergone recent intraocular surgery (within the past 6 months)
    - Member has a condition in which there is no potential benefit in Luxturna treatment
    - Member is using prescription retinoid compounds (or precursors) that may potentially interact with the activity of the *RPE65* enzyme (discontinued use for at least 18 months may render member eligible)
    - Repeat administration of Luxturna to the same eye

MassHealth Variation
Prior authorization requests for Luxturna for Mass General Brigham ACO members should be submitted to the MassHealth Drug Utilization Review Program. Criteria for Luxturna are found in Table 72: Agents not Otherwise Classified.

Medicare Variation
Mass General Brigham Health Plan uses guidance from the Centers for Medicare and Medicaid Services (CMS) for coverage determinations for its Medicare Advantage plan members. National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), Local Coverage Articles (LCAs) and documentation included in the Medicare manuals are the basis for coverage determinations. When there is no guidance from CMS for the requested service, Mass General Brigham Health Plan's medical policies are used for coverage determinations.
As of Mass General Brigham Health Plan's most recent policy review, Medicare has:

- **LCD: Voretigene Neparvovec-rzyl (Luxturna) (L37863)**

Codes

The following codes are included below for informational purposes only; inclusion of a code does not constitute or imply coverage or reimbursement.

This list of codes applies to commercial and MassHealth plans only.

Authorized Code	Code Description
J3398	Injection, voretigene neparvovec-rzyl, 1 billion vector genomes

Summary of Evidence
Mutations in the RPE65 gene can cause retinal dystrophies manifesting as visual loss that progresses from night-blindness to complete blindness, with onset in infancy (Leber's congenital amaurosis), childhood, or adolescence (retinitis pigmentosa; Kang and Scott [2010]). Voretigene neparvovec (Luxturna) is the first directly administered gene therapy to target the RPE-65 gene. Phase 1-2 studies by Bainbridge et al. (2008, 2015) showed modest and transient improvements in retinal sensitivity and subjective improvements in night vision, without improvement in visual acuity. The pivotal phase 3 trial by Russell et al. (2017) demonstrated that patients treated with Luxturna had significant improvements in the multi-luminance mobility test (MLMT), which evaluates an individual's ability to navigate a marked obstacle course in low light conditions, while those treated with placebo

had no such improvements. These improvements persisted at least to 1 year of follow-up. Additionally, improvements in visual acuity and Goldmann visual fields were observed in the treatment group compared with baseline and compared with control. Long-term follow-up by Maguire et al. (2021) shows durability at 3-4 years. Viriato et al. (2020) used a Markov model to show that Luxturna was cost-effective in the UK, and NICE (2019) recommended use of this therapy in the UK.

Given that Luxturna remains the only therapy for RPE65-mediated retinal dystrophies and given that the studies described above demonstrate improvement in clinically meaningful outcomes with a good safety profile, MGB Health Plan considers Luxturna to be medically necessary for appropriately selected patients who meet inclusion/exclusion criteria similar to those in the studies by Bainbridge and Russell.

Effective
April 2025: Ad hoc update. MassHealth variation updated to include new prior authorization process. Corrected previous policy effective date.
March 2025: Ad hoc update. Summary of evidence added.
November 2024: Annual update. Added LCD information to Medicare Variation.
September 2024: Ad hoc update. MassHealth variation added.
November 2023: Annual update. Medicare Advantage added to table. Medicare Variation language added. References updated.
December 2022: Annual update. Under Criteria for initial approval, edited language for clarity. Under Dosing and Administration, statement added “Requests should include anticipated surgery dates for each eye”. Under Monitoring, expanded criteria to include bullets 2 and 3. Under Contraindications / Exclusions, changed surgery timeline to 6 months. Added statement regarding no potential benefit. Added final bullet regarding repeat administration. References updated.
November 2021: Annual update. References updated.
November 2020: Annual update. References updated.
November 2019: Annual update. References updated.
December 2018: Effective date.

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