

Medical Policy

Zolgensma (Onasemnogene Apeparvovec)

Policy Number: 060

	Commercial and Qualified Health Plans	MassHealth	Medicare Advantage
Authorization required	X	X	X
Authorization not required			

Overview

Zolgensma is an adeno-associated virus vector-based gene therapy indicated for the treatment of pediatric patients less than 2 years of age with spinal muscular atrophy (SMA) with bi-allelic mutations in the survival motor neuron 1 (SMN1) gene.

Criteria (Commercial)

1. Criteria for Approval (The member must meet **all** of the following requirements):
 - Member has confirmed and symptomatic genetic diagnosis documented by bi-allelic mutations in the SMN1 gene AND three or less copies of SMN2 gene
 - Member has an anti-adeno-associated viral vector, serotype 9 (AAV9) antibody titer less than or equal to 1:50
 - Member is less than 2 years of age
 - Member has not previously received Zolgensma
 - Member does not have concomitant illness such as severe kidney or liver disease, active viral infection, or symptomatic cardiomyopathy
 - If the member is receiving treatment with Spinraza, that treatment will be discontinued
2. Dosing and Administration
 - Member will receive a single-dose Zolgensma intravenously infusion within accordance of the FDA approved labeling; 1.1×10^{14} vector genomes (vg) per kilogram of body weight.
3. Duration of Therapy
 - Single-dose one-time intravenous infusion per lifetime
4. Exclusions
 - The member has advanced SMA as evidenced but not limited to complete paralysis of limbs, invasive ventilatory support (tracheostomy), or use of non-invasive respiratory support for more than 16 hours per day.

MassHealth Variation

Mass General Brigham Health Plan uses the [MassHealth Drug List](#) for coverage determinations for members of the MGB ACO. Criteria for Zolgensma are found in [Table 76: Neuromuscular Agents – Duchenne Muscular Dystrophy and Spinal Muscular Atrophy](#).

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. **At the time of Mass General Brigham Health Plan’s most recent policy review, CMS had no NCD or LCD for onasemnogene abeparvovec.**

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
J3399	Injection, Onasemnogene abeparvovec-xioi, per treatment, up to 5×10 ¹⁵ vector genomes

Effective

October 2024: Annual update. Clarified Medicare variation language.

September 2024: Ad hoc update. MassHealth variation added.

October 2023: Annual update. Medicare Advantage added to table.

October 2022: Annual update. References updated.

October 2021: Annual update. References updated.

October 2020: Annual update. References updated.

July 2020: Added code.

April 1, 2020: Updated table and added Criteria section to reflect MassHealth coverage.

December 2019: Effective date.

References

Al-Zaidy S, Pickard AS, Kotha K, et al. Health outcomes in spinal muscular atrophy type 1 following AVXS-101 gene replacement therapy. *Pediatric Pulmonology* 2018;54:179–185.

Chand D, Mohr F, McMillan H, et al. Hepatotoxicity following administration of onasemnogene abeparvovec (AVXS-101) for the treatment of spinal muscular atrophy. *J Hepatol.* 2021 Mar;74(3):560-566. doi: 10.1016/j.jhep.2020.11.001. Epub 2020 Nov 10. PMID: 33186633.

Day JW, Finkel RS, Chiriboga CA, et al. Onasemnogene abeparvovec gene therapy for symptomatic infantile-onset spinal muscular atrophy in patients with two copies of SMN2 (STR1VE): an open-label, single-arm, multicentre, phase 3 trial. *Lancet Neurol.* 2021 Apr;20(4):284-293

Finkel RS, Mercuri E, Meyer OH, et al.; SMA Care group. Diagnosis and management of spinal muscular atrophy: Part 2: Pulmonary and acute care; medications, supplements and immunizations; other organ systems; and ethics. *Neuromuscul Disord.* 2018 Mar;28(3):197-207.

Friese J, Geitmann S, Holzwarth D, Müller N, et al. Safety Monitoring of Gene Therapy for Spinal Muscular Atrophy with Onasemnogene Abeparvovec -A Single Centre Experience. *J Neuromuscul Dis.* 2021;8(2):209-216. doi: 10.3233/JND-200593. PMID: 33427694; PMCID: PMC8075402.

Institute for Clinical and Evidence Review. Spinraza and Zolgensma for Spinal Muscular Atrophy: Effectiveness and Value (Final Evidence Report April 3, 2019; Updated May 24, 2019). 2019; https://icer-review.org/wp-content/uploads/2018/07/ICER_SMA_Final_Evidence_Report_052419.pdf. Accessed September 15, 2020



Kichula EA, Proud CM, Farrar MA, et al. Expert recommendations and clinical considerations in the use of onasemnogene abeparvovec gene therapy for spinal muscular atrophy. *Muscle Nerve*. 2021 Oct;64(4):413-427. doi: 10.1002/mus.27363. Epub 2021 Jul 20. PMID: 34196026; PMCID: PMC8518380.

Mendell JR, Al-Zaidy S, Shell R, et al. Single-dose gene-replacement therapy for spinal muscular atrophy. *N Engl J Med*. 2017;377:1713-22

Mendell JR, Al-Zaidy S, Shell R, et al. AVXS-101 Phase 1 gene-replacement therapy clinical trial in SMA type 1: 24-month event-free survival and achievement of developmental milestones. Poster presented at: The 23rd International Annual Congress of the World Muscle Society, Mendoza, Argentina, October 2–6, 2018.

Muscular Dystrophy Association. Spinal Muscular Atrophy. n.d.; <https://www.mda.org/disease/spinalmuscular-atrophy>. Accessed March 12, 2020

Saffari A, KÖlker S et.al. Novel challenges in spinal muscular atrophy – How to screen and whom to treat? *Annals of Clinical and Translational Neurology* 2019; 6(1): 197–205

Stevens D, Claborn MK, Gildon BL, et al. Onasemnogene beparvovec-xioi: Gene therapy for spinal muscular atrophy. *AnnPharmacother*. 2020 Mar 23 [Epub ahead of print].

Strauss KA, Farrar MA, Muntoni F, et al. Onasemnogene abeparvovec for presymptomatic infants with two copies of SMN2 at risk for spinal muscular atrophy type 1: the Phase III SPR1NT trial. *Nat Med*. 2022 Jul;28(7):1381-1389.

Waldrop MA, Karingada C, Storey MA, Powers B, Iammarino MA, Miller NF, Alfano LN, Noritz G, Rossman I, Ginsberg M, Mosher KA, Broomall E, Goldstein J, Bass N, Lowes LP, Tsao CY, Mendell JR, Connolly AM. Gene Therapy for Spinal Muscular Atrophy: Safety and Early Outcomes. *Pediatrics*. 2020 Sep;146(3):e20200729. doi: 10.1542/peds.2020-0729. PMID: 32843442.

Zolgensma [package insert]. Bannockburn, IL; AveXis, Inc. May 2019.

