MEDICAL COVERAGE POLICY	
SERVICE:	**Onasemnogene Abeparvovec (Zolgensma®)**
Policy Number:	**253**
Effective Date:	**09/01/2025**
Last Review:	**08/11/2025**
Next Review:	**08/11/2026**

Important note: *Unless otherwise indicated, medical policies will apply to all lines of business. Medical necessity as defined by this policy does not ensure the benefit is covered. This medical policy does not replace existing federal or state rules and regulations for the applicable service or supply. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan documents. See the member plan specific benefit plan document for a complete description of plan benefits, exclusions, limitations, and conditions of coverage. In the event of a discrepancy, the plan document always supersedes the information in this policy.*

SERVICE: Onasemnogene Abeparvovec (Zolgensma®)

PRIOR AUTHORIZATION: Required

POLICY: Please review the plan's EOC (Evidence of Coverage) or Summary Plan Description (SPD) for details.

For Medicare plans, please refer to appropriate Medicare NCD (National Coverage Determination) or LCD (Local Coverage Determination). If there are no applicable NCD or LCD criteria, use the criteria set forth below.

For Medicaid plans, please confirm coverage as outlined in the Texas Medicaid Provider Procedures Manual | TMHP (TMPPM). Texas Mandate HB154 is applicable for Medicaid plans.

Baylor Scott & White Health Plan (BSWHP) may consider onasemnogene abeparvovec (Zolgensma®) medically necessary when documentation is submitted showing ALL of the following criteria are met:

1. Member has Type 1 spinal muscular atrophy (SMA); **AND**
2. Member has a genetically confirmed mutation or deletion of genes in chromosome 5q resulting in either: homozygous gene deletion or mutation (e.g., homozygous deletion of exon 7 at locus 5q13); or compound heterozygous mutation (e.g., deletion of SMN1 exon 7 [allele 1] and mutation of SMN1 [allele 2]); **AND**
3. Member is less than 2 years of age; **AND**
4. Onasemnogene is prescribed by or in consultation with a neurologist with expertise in the diagnosis of SMA; **AND**
5. Member has a baseline anti-AAV9 antibody titers of ≤1:50 as measured by ELISA; **AND**
6. Onasemnogene will be dosed and administered according to FDA approved labeling; **AND**
7. Member does NOT have any of the following:
    a. Invasive-ventilator dependency or dependent on use of non-invasive ventilation beyond use for naps and nighttime sleep; **OR**
    b. Use of invasive ventilatory support; **OR**
    c. Active infection, either acute (ex. cold, flu, gastroenteritis, otitis media, bronchiolitis, etc) or chronic uncontrolled (ex. chronic active hepatitis B); **OR**
    d. Preexisting liver impairment defined as ALT, AST, or total bilirubin levels (except due to neonatal jaundice) greater than 2 times ULN; **OR**
    e. Concomitant use of ongoing immunosuppressive therapy or immunosuppressive therapy within 3 months of starting treatment (e.g. corticosteroids, cyclosporine,

tacrolimus, methotrexate, cyclophosphamide, intravenous immunoglobulin, rituximab); **OR**

f. Asymptomatic SMA or Types 2, 3, or 4 SMA; **OR**
g. Advanced SMA (e.g., complete paralysis of limbs, permanent ventilator-dependence)

AND

8. Member has received prophylaxis against influenza and respiratory syncytial virus (RSV) if recommended by the American Academy of Pediatrics (AAP); **AND**
9. Therapy with nusinersen (Spinraza) or risdiplam (Evrysdi), if applicable, will be discontinued.

BSWHP considers only ONE treatment per lifetime is medically necessary as repeat administration of onasemnogene is experimental and investigational because the effectiveness of this strategy has not been established.

BSWHP considers onasemnogene for the treatment of all other indications including the following to be experimental and investigational because the effectiveness of this strategy has not been established:

- The treatment of pre-symptomatic patients diagnosed by newborn screening who are unlikely to develop SMA;
- The treatment of symptomatic later-onset SMA beyond 2 years of age;
- SMA without chromosome 5q mutations or deletions;
- The routine combination treatment of SMA with concomitant survival motor neuron (SMN) modifying therapy, e.g., nusinersen (Spinraza) or risdiplam (Evrysdi).

All requests will be reviewed by a clinical pharmacist and medical director.

BACKGROUND:

Spinal Muscular Atrophy (SMA) is caused by a defective or missing SMN1 gene. Without a functional SMN1 gene, infants with SMA Type 1 rapidly lose the motor neurons responsible for muscle functions such as breathing, swallowing, speaking and walking. Left untreated, the child's muscles become progressively weaker eventually leading to paralysis or death, in most cases by his or her second birthday.

Onasemnogene abeparvovec (Zolgensma®) is 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. It is a gene therapy that works by replacing the missing or defective SMN1 gene with a functional copy that makes SMN protein, thereby improving motor neuron function and survival.

START was a Phase 1 study with two cohorts with 24 month follow up. All 15 patients (100%) in Cohort 1 were event-free, as opposed to only 8% of patients in a natural history study which indicates a significant and clinically meaningful increase in overall survival for patients infused with onasemnogene when compared to untreated patients. No patient deaths were reported. Cohort 2 patients consistently achieved and maintained key developmental motor milestones including

holding head erect for 3 or more seconds and sitting without support for 5, 10, and 30 seconds. 2 patients (16.7%) were able to stand alone, walk with assistance and walk alone.

STR1VE evaluated the safety and efficacy of onasemnogene in symptomatic patients (identified through clinical examination) with infantile-onset SMA. Outcomes evaluated included functional independent sitting for 30 seconds or longer and permanent ventilation free survival. Onasemnogene showed statistical superiority and clinically meaningful responses when compared with observations from the natural history cohort for infantile-onset spinal muscular atrophy type 1.

CODES:

Important note: *Due to the wide range of applicable diagnosis codes and potential changes to codes, an inclusive list may not be presented, but the following codes may apply. Inclusion of a code in this section does not guarantee that it will be reimbursed, and patient must meet the criteria set forth in the policy language.*

CPT Codes:	
HCPCS Codes:	J3399 - Injection, onasemnogene abeparvovec-xioi, per treatment, up to 5x10^15 vector genomes
ICD10 codes:	G12.0 Infantile spinal muscular atrophy, type I [Werdnig-Hoffmann] G12.1 Other inherited spinal muscular atrophy G12.9 Spinal muscular atrophy, unspecified
ICD10 Not covered:	

POLICY HISTORY:

Status	Date	Action
New	06/27/2019	New policy
Updated	08/28/2019	Age for use clarified and specific exclusions listed.
Updated	06/29/2020	Logo changed to include FC
Reviewed	08/27/2020	Update to request reviewer and added HCPCS code
Reviewed	08/26/2021	Updated criteria to add risdiplam to SMN modifying therapy and overview
Updated	09/01/2022	Updated age limit criteria, added FDA dosing requirement, amended RSV criteria for AAP recommendation
Updated	08/24/2023	Combined all exclusion criteria to one section, added liver function exclusion and recommendation for influenza vaccine
Updated	08/12/2024	Applied new format and layout and updated background information
Updated	08/11/2025	Added requirement of submitted documentation. Updated to standard language for indication, prescriber, dosing. Changed patient to member within criteria. Rearranged criteria to standardized order. Updated lifetime treatment and

		experimental and investigational language. Background section simplified.
Update	8/11/2025	Removed, Medicare NCD/LCD Interqual statement for clarity.

REFERENCES:

The following scientific references were utilized in the formulation of this medical policy. BSWHP will continue to review clinical evidence related to this policy and may modify it at a later date based upon the evolution of the published clinical evidence. Should additional scientific studies become available, and they are not included in the list, please forward the reference(s) to BSWHP so the information can be reviewed by the Medical Coverage Policy Committee (MCPC) and the Quality Improvement Committee (QIC) to determine if a modification of the policy is in order.

1. Mendell, JR., Al-Zaidy S., Shell R., et al. Single-dose gene-replacement therapy for spinal muscular atrophy. N Engl J Med 2017; 377:1713-1722.
2. Farrar MA, Park SB, Vucic S, et al. Emerging therapies and challenges in spinal muscular atrophy. Ann Neurol. 2017; 81(3):355-368.
3. Anderton RS and Mastaglia FL. Advances and challenges in developing a therapy for spinal muscular atrophy. Expert Rev Neurother. 2015;15(8):895-908
4. Finkel RS, McDermott MP, Kaufmann P. et al. Observational study of spinal muscular atrophy type I and implications for clinical trials. Neurology. 2014;83(9):810-7.
5. Mendell JR, Al Zaidy S, Shell R., et al. AVXS-101 Phase 1 Gene Replacement Therapy Clinical Trial in SMA Type 1: Event-Free Survival and Achievement of Developmental Milestones After 24 Months Post-Dosing. April 2018.
6. Day, John W 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.” The Lancet. Neurology vol. 20,4 (2021): 284-293.
7. Zolgensma (onasemnogene abeparvovec) [prescribing information]. Bannockburn, IL: Novartis Gene Therapies, Inc. February 2023.