Spinraza (nusinersen)
PAM – 013

Iowa Medicaid Program	Prior Authorization	**Effective Date**	04/21/2017
Revision Number	7	**Last Reviewed**	04/18/2025
Reviewed By	Medicaid Medical Director	**Next Review**	04/17/2026
Approved By	Medicaid Clinical Advisory Committee	**Approved Date**	04/03/2019

Overview

Medication: [1]	nusinersen
Brand Name:	Spinraza®
Pharmacologic Category:	Antisense oligonucleotide
FDA-Approved Indication(s):	Treatment of spinal muscular atrophy (SMA) in pediatric and adult patients
How Supplied:	Single-dose glass vial: 12 mg/5 mL solution
Dosage and Administration:	• Administer intrathecally by, or under the direction of, healthcare professionals experienced in performing lumbar punctures. • 12 mg (5 mL) per administration • Initial: 4 loading doses: the first 3 doses at 14-day intervals, and the 4th loading dose should be administered 30 days after the 3rd dose • Maintenance: 12 mg (5 mL) once every 4 months thereafter
Benefit Category:	Medical

Descriptive Narrative

Spinal muscular atrophy (SMA) is an autosomal recessive genetic disorder[2], affects 1 in 10,000 live births, and is the most common genetic cause of infant mortality. The majority of cases are caused by mutations in the survival motor neuron 1 *(SMN1)* gene positioned at 5q13 (95 percent have a homozygous deletion of *SMN1* exon 7 or gene conversion from *SMN1* to *SMN2)*. These mutations cause progressive degeneration of motor neurons resulting in muscle atrophy of variable severity. Weakness and loss of response to stimuli in the lower extremities are most common, but in severe cases the muscles that control the mouth, throat, and respiration may also be impacted.

Medical care focuses on respiratory support, nutritional support, the management of resulting respiratory infections with antibiotics, and the management of resulting tendon contractures and scoliosis through bracing, physical therapy, and surgery. Although the lifespan of the most severely affected SMA patients can be increased through invasive mechanical

ventilation, the quality of such a life is poor and most patients eventually succumb to respiratory infection.

SMA was traditionally classified into types 0-4 based on age of onset, symptom severity, and genotype, but with new therapies available (including nusinersen, risdiplam, and the gene therapy onasemnogene abeparvovec-xioi), this classification now focuses more on functional status or treatment response. [3]

Classification of Spinal Muscular Atrophy

SMA Type	Copies *SMN2*	% of Cases	Onset	Motor Milestones	Clinical Features	Natural History Prior to DMT*
0	1	Rare <1%	Prenatal, at birth	Non-sitter, no head control	Generalized weakness, hypotonia, respiratory failure, poor feeding, contractures	Death within weeks of birth
1	1-2	45%	0-6 months	Non-sitter	Proximal predominant weakness, respiratory insufficiency, poor feeding, tongue fasciculations	Death by 2 years
2	3	20%	6-18 months	Sits independently, never stands or ambulates	Proximal predominant weakness, tongue fasciculations, minipoly-myoclonus, scoliosis	Most alive at 25 years
3	3-4	30%	A: 18 months – 3 years B: 3-30 years	Ambulates independently	Proximal, lower extremity predominant weakness, abnormal gait	Normal lifespan
4	4 or more	<5%	>30 years	Ambulates independently	Maintain ability to ambulate	Normal lifespan

*DMT: disease-modifying therapy

Spinraza® is an antisense oligonucleotide (ASO) designed to treat SMA caused by mutations in chromosome 5q that leads to SMN protein deficiency.

Guidelines

In 2018, the Cure SMA* Newborn Screening (NBS) Multidisciplinary Working Group (consisting of 15 clinicians and geneticists with SMA experience) formulated a treatment algorithm for infants with a positive spinal muscular atrophy (SMA) newborn screening (NBS) test. The recommendation at that time was that all infants with two or three copies of the survival motor neuron 2 (*SMN2)* gene should receive immediate treatment. For those infants in which immediate treatment is not recommended, guidelines were developed that outline the timing and appropriate screens and tests to be used to determine the timing of treatment initiation.

The working group acknowledged that current laboratory assays designed to detect *SMN2* copy number often have difficulty distinguishing high copy numbers, and that many labs report results as four or more copies, being unable to give an exact number. Recognizing this fact, the group encouraged follow-up with a laboratory able to distinguish exact *SMN2* copy number.[4]

In September 2019, this working group reconvened to reassess the treatment algorithm for newborns with SMA identified through newborn screening based upon new experience and therapeutic options. The working group updated their position to a recommendation for immediate treatment for infants diagnosed with SMA via NBS with four copies of *SMN2*. The working group also revisited the published recommendation to wait to treat for infants with five copies of *SMN2* and unanimously voted to uphold the recommendation of watchful waiting.[5] Although the 2019 working group did not revisit the topic of the accuracy of laboratory assays in distinguishing high copy numbers of *SMN2*, more recent information supports that many laboratories are now able to provide more concise results regarding copy numbers.

* Cure SMA is a nonprofit organization that advocates for people with SMA and provides support services. It holds an annual conference that brings together researchers, doctors, people with SMA, and families. www.curesma.org.

Criteria

Prior authorization is required.

Initial Therapy

Spinraza® is considered medically necessary when **ALL** of the following are met:

1. Documentation of a confirmed diagnosis of 5q spinal muscular atrophy (SMA) by molecular genetic testing showing **ANY** of the following:
    a. Homozygous gene deletion (confirming 0 copies of *SMN1*); **OR**
    b. Homozygous conversion mutation; **OR**
    c. Pathogenic point mutations on both copies of *SMN1*; **OR**
    d. Compound heterozygote (any combination of the above); **OR**
    e. RNA confirmation of absence of SMN protein **AND** any one of the above mutations; **AND**
2. Member does not require use of invasive ventilator support (tracheotomy with positive pressure) or use of non-invasive ventilator support (BiPAP) for more than 16 hours per day as a result of advanced SMA disease; **AND**
3. Prescribed by, or in consultation with, a provider who specializes in the treatment of spinal muscular atrophy and/or neuromuscular disorders; **AND**
4. Request meets one of the following (a or b):
    a. Dose does not exceed 12 mg (5 mL), administered as follows (i and ii):
        i. Treatment initiated with 4 loading doses (the first three at 14-day intervals, and the 4th loading dose administered 30 days after the 3rd dose); and
        ii. Maintenance dose administered once every 4 months thereafter; **OR**
    b. Regimen is supported by clinical practice guidelines. Supporting clinical documentation must be provided with any request for which regimen prescribed does not align with FDA-approved labeling.

Spinraza® following administration of gene therapy (Zolgensma®)

Spinraza® is considered medically necessary when **ALL** of the following are met:

1. Documentation of a confirmed diagnosis of 5q spinal muscular atrophy (SMA) by molecular genetic testing showing **ANY** of the following:
    a. Homozygous gene deletion (confirming 0 copies of *SMN1*); **OR**
    b. Homozygous conversion mutation; **OR**
    c. Pathogenic point mutations on both copies of *SMN1*; **OR**
    d. Compound heterozygote (any combination of the above); **OR**
    e. RNA confirmation of absence of SMN protein **AND** any one of the above mutations; **AND**
2. Member does not require use of invasive ventilator support (tracheotomy with positive pressure) or use of non-invasive ventilator support (BiPAP) for more than 16 hours per day as a result of advanced SMA disease; **AND**
3. After receiving gene therapy, the member has experienced a decline in motor or bulbar function, such a loss of motor milestones, occurring more than 3 months after receiving gene replacement; **AND**
4. Prescribed by, or in consultation with, a provider who specializes in the treatment of spinal muscular atrophy and/or neuromuscular disorders; **AND**
5. Request meets one of the following (a or b):
    a. Dose does not exceed 12 mg (5 mL), administered as follows (i and ii):
        i. Treatment initiated with 4 loading doses (the first three at 14-day intervals, and the 4th loading dose administered 30 days after the 3rd dose); then
        ii. Maintenance dose administered once every 4 months; **OR**
    b. Regimen is supported by clinical practice guidelines. Supporting clinical documentation must be provided with any request for which regimen prescribed does not align with FDA-approved labeling.

Continuation of Therapy

Spinraza® is considered medically necessary for continuation of therapy when **ALL** of the following are met:

1. Member is currently receiving medication through the Iowa Medicaid benefit or has previously met initial approval criteria; **AND**
2. Documentation of clinically significant improvement in spinal muscular atrophy (SMA)-associated signs and symptoms (i.e., motor improvement, stabilization of disease, or decreased rate of decline in motor function) compared to the predicted natural history trajectory of disease; **AND**
3. Prescribed by, or in consultation with, a provider who specializes in the treatment of SMA and/or neuromuscular disorders; **AND**
4. Request meets one of the following (a or b):
    a. Dose does not exceed 12 mg (5 mL) once every 4 months; or
    b. Regimen is supported by clinical practice guidelines. Supporting clinical documentation must be provided with any request for which regimen prescribed does not align with FDA-approved labeling.

Spinraza® is considered **investigational** for the following:

1. Uses that do not meet the medically necessary criteria listed above.
2. Concomitant treatment with Evrysdi® (risdiplam) or Zolgensma® (onasemnogene abeparvovec-xioi).

Approval Duration and Quantity Limits

	Initial Authorization	Subsequent Authorization(s)
Approval Duration	6 months	12 months
Quantity Limits	12 mg per dose Maximum of 5 doses on initial approval	12 mg per dose Maximum of 3 doses per approval

Coding and Product Information

The following list(s) of codes and product information are provided for reference purposes only and may not be all inclusive. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment, nor does the exclusion of a code imply that its association to the HCPCS code is inappropriate.

HCPCS	Description
J2326	Injection, nusinersen, 0.1 mg

ICD-10	Description
G12.0	Infantile spinal muscular atrophy, type 1 (Werdnig-Hoffman)
G12.1	Other inherited spinal muscular atrophy (SMA) • Adult form SMA • Childhood form, type 2 SMA • Distal SMA • Juvenile form, type 3 SMA (Kugelberg-Welander) • Progressive bulbar palsy of childhood (Fazio-Londe) • Scapuloperoneal form SMA
G12.8	Other spinal muscular atrophies and related syndromes
G12.9	Spinal muscular atrophy, unspecified

NDC (Strength)	Labeler	Dosage	Pkg Size	Pkg Qty	Units/ Pkg
64406-0058-01 [single-dose vial, 12 mg/5 mL (2.4 mg/mL)]	Biogen (64406)	0.1 mg	1	EA	120

Compliance

1. Should conflict exist between the policy and applicable statute, the applicable statute shall supersede.
2. Federal and State law, as well as contract language, including definitions and specific contract provisions or exclusions, take precedence over medical policy and must be considered first in determining eligibility for coverage.

3. Medical technology is constantly evolving, and Iowa Medicaid reserves the right to review and update medical policy on an annual or as-needed basis.

Medical necessity guidelines have been developed for determining coverage for member benefits and are published to provide a better understanding of the basis upon which coverage decisions are made. Medical necessity guidelines are developed for selected physician-administered medications found to be safe and proven to be effective in a limited, defined population or clinical circumstances. They include concise clinical coverage criteria based on current literature review, consultation with practicing physicians in the service area who are medical experts in the particular field, FDA and other government agency policies, and standards adopted by national accreditation organizations. Criteria are revised and updated annually, or more frequently if new evidence becomes available that suggests needed revisions.

References

[1] Spinraza® prescribing information (04/2024). Biogen: Cambridge, MA. Available online: www.spinrazahcp.com. Accessed March 5, 2025.

[2] Bodamer O. Spinal muscular atrophy. Dashe JF, ed. UpToDate. Waltham, MA: UpToDate, Inc. www.uptodate.com. Accessed March 5, 2025.

[3] Keinath MC, Prior DE, Prior TW. Spinal Muscular Atrophy: Mutations, Testing, and Clinical Relevance. Appl Clin Genet. 2021 Jan 25;14:11-25. PMID: 33531827.

[4] Glascock J, Sampson J, et al. Treatment Algorithm for Infants Diagnosed with Spinal Muscular Atrophy through Newborn Screening. J Neuromuscul Dis. 2018;5(2):145-158. PMID: 29614695.

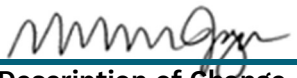
[5] Glascock J, Sampson J, et al. Revised Recommendations for the Treatment of Infants Diagnosed with Spinal Muscular Atrophy Via Newborn Screening Who Have 4 Copies of SMN2. J Neuromuscul Dis. 2020;7(2):97-100. PMID: 32007960.

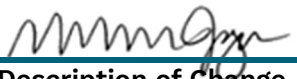
Development of utilization management criteria may also involve research into other state Medicaid programs, other payer policies, consultation with experts and review by the Medicaid Clinical Advisory Committee (CAC). These sources may not be referenced individually unless they are specifically published and are otherwise applicable to the criteria at issue.

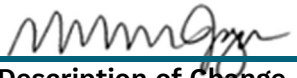
Criteria Change History

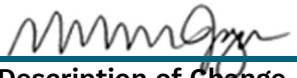
Change Date	Changed By	Description of Change	Version
[mm/dd/yyyy]	CAC		
Signature			

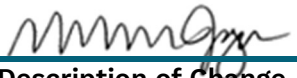
Change Date	Changed By	Description of Change	Version
[mm/dd/yyyy]	CAC		
Signature			

Change Date	Changed By	Description of Change	Version
04/18/2025	CAC	Annual review. No changes.	7
Signature William (Bill) Jagiello, DO			

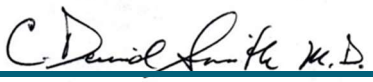
Change Date	Changed By	Description of Change	Version
04/19/2024	CAC	Annual review. Added to Overview table: "Administer intrathecally by, or under the direction of, healthcare professionals experienced in performing lumbar punctures." Added dosing information into criteria; changed "physician" to "provider" in criterion requiring expertise. Updated references.	6
Signature William (Bill) Jagiello, DO			

Change Date	Changed By	Description of Change	Version
04/15/2023	CAC	Annual review. Criteria #4 for Spinraza following Zolgensma, added text in red: "After receiving gene therapy, the member has experienced a decline in motor *or bulbar* function…". Updated guidelines. Updated references.	5
Signature William (Bill) Jagiello, DO			

Change Date	Changed By	Description of Change	Version
07/15/2022	CAC	Added notation that Spinraza® may not be used concurrently with Evrysdi® (risdiplam) or Zolgensma® (onasemnogene abeparvovec-xioi). Formatting changes.	4
Signature William (Bill) Jagiello, DO			

Change Date	Changed By	Description of Change	Version
07/16/2021	CAC	Added Overview and Guidelines sections. Revised Descriptive Narrative section. Added ICD10 and NDC codes. References updated.	3
Signature William (Bill) Jagiello, DO			

Change Date	Changed By	Description of Change	Version
10/06/2020	CAC	Developed descriptive narrative. Criteria updated. References updated.	2
Signature William (Bill) Jagiello, DO			

Change Date	Changed By	Description of Change	Version
[mm/dd/yyyy]	CAC	Criteria #1 removed "is at least 3 weeks old". Criteria #4 added "beyond the initial 6 months".	1
Signature C. David Smith, MD			

CAC = Medicaid Clinical Advisory Committee