

DR.004.D

SPINRAZA™ (Nusinersen)



Health Partners Plans

Title: SPINRAZA™ (Nusinersen)

Policy #: DR.004.D

Type/Sub-Type: Medical Necessity/ Drug (DR)

Original Implementation Date: 6/1/2019

Version Date [D]: 5/1/2022

Last Review Date: 4/20/2022

POLICY STATEMENT

Health Partners Plans (HPP) considers Spinraza® (Nusinersen) medically necessary for the treatment of spinal muscular atrophy (SMA) when the prior authorization criteria listed in the policy are met.

HPP considers use of Spinraza® experimental and investigational for all other indications.

FDA APPROVED INDICATIONS

FDA APPROVED INDICATIONS:

- Spinraza® is a musculoskeletal agent indicated for the treatment of spinal muscular atrophy (SMA).

PRIOR AUTHORIZATION CRITERIA

INITIAL CRITERIA

- 1) Is the medication prescribed by or in consultation with a physician who specializes in treatment of spinal muscular atrophy? *If YES, go to 2. If NO, refer to Medical Director.*
- 2) Does the patient have the required laboratory tests (platelet count, prothrombin time, activated partial prothrombin time and quantitative spot urine protein) documented at baseline and prior to each administration? *If YES, go to 3. If NO, refer to Medical Director.*
- 3) Does the patient have a diagnosis of Spinal Muscular Atrophy (SMA) confirmed by corresponding mutation or deletion in the SMN gene found at chromosome 5q13? *If YES, go to 4. If NO, refer to Medical Director.*
- 4) Is the dose prescribed consistent with U.S. Food and Drug Administration (FDA) approved package labeling, nationally recognized compendia, or peer-reviewed medical literature? *If YES go to 5. If NO, refer to a Medical Director.*
- 5) The member has not previously received gene therapy (Zolgensma) for SMA, or has received gene therapy for SMA and has experienced a worsening in clinical status since receiving gene therapy based on prescribers assessment. *If YES, go to 6. If NO, refer to Medical Director.*

- 6) Does the patient have documentation of a baseline motor milestone score, by a neurologist with experience treating spinal muscular atrophy? *If YES, go to 7. If NO, refer to Medical Director.*
- 7) Does the patient receive comprehensive treatment based on standards of care for spinal muscular dystrophy? *If YES, go to 8. If NO, refer to Medical Director.*
- 8) Will the patient be using Spinraza (nusinersen) concomitantly with Evrysdi (risdiplam)? *If NO, approve for 12 months. If YES, refer to Medical Director.*

RENEWAL CRITERIA

- 1) Is the medication prescribed by or in consultation with a physician who specializes in treatment of spinal muscular atrophy? *If YES, go to 2. If NO, refer to Medical Director.*
- 2) Is the dose prescribed consistent with U.S. Food and Drug Administration (FDA) approved package labeling, nationally recognized compendia, or peer-reviewed medical literature? *If YES, go to 3. If NO, refer to Medical Director.*
- 3) Does the patient have documentation of an annual evaluation, including a standardized assessment of motor function, by a neurologist with experience treating spinal muscular atrophy? *If YES, go to 4. If NO, refer to Medical Director.*
- 4) Does the patient receive comprehensive treatment based on standards of care for spinal muscular atrophy? *If YES, go to 5. If NO, refer to Medical Director.*
- 5) Does the patient have the required laboratory tests (platelet count, prothrombin time, activated partial prothrombin time and quantitative spot urine protein) documented prior to each administration? *If YES, go to 6. If NO, refer to Medical Director.*
- 6) Is the patient receiving clinical benefit, such as an improvement in motor milestones, based on the prescriber's assessment? *If YES, go to 7. If NO, refer to Medical Director.*
- 7) Will the patient be using Spinraza (nusinersen) concomitantly with Evrysdi (risdiplam)? *If NO, approve for 12 months. If YES, refer to Medical Director.*

BACKGROUND

Spinal muscular atrophy (SMA) is characterized by loss of motor neurons in the spinal cord and lower brain stem, resulting in severe and progressive muscular atrophy and weakness (Biogen, 2016). Ultimately, individuals with the most severe type of SMA can become paralyzed and have difficulty performing the basic functions of life, like breathing and swallowing.

Due to a loss of, or defect in, the SMN1 gene, people with SMA do not produce enough survival motor neuron (SMN) protein, which is critical for the maintenance of motor neurons (Biogen, 2016). The severity of SMA correlates with the amount of SMN protein.

- **SMA type 0** — in the expanded classification, SMA type 0 designates prenatal onset of SMA although prenatal onset was traditionally classified as SMA type. At birth, infants with SMA type 0 have severe weakness and hypotonia, often with areflexia, facial diplegia, and congenital heart defect. Multiple joint contractures may be present. No motor milestones are achieved. Death occurs from respiratory failure by age six months and usually by one month.
 - Infants with SMA type 0 generally have only one copy of the SMN2 gene.
- **SMA type 1** — SMA type 1 is also known as infantile spinal muscular atrophy or Werdnig-Hoffmann disease. It typically presents after birth but before age six months. Affected infants may appear normal before the onset of symptoms, but soon develop a severe, symmetric flaccid paralysis and never achieve the ability to sit unsupported. Respiratory muscle weakness leads to progressive respiratory failure. The severe hypotonic leg weakness often manifests as a "frog-leg" posture when lying.

Symptoms progress rapidly, and the majority of infants die before two years of age from respiratory failure nevertheless, long-term survivors have been reported. This is perhaps due, in part, to advances in the care of chronic respiratory insufficiency and to more aggressive care.

- Patients with SMA type 1 generally have two or three copies of the SMN2 gene.
- **SMA type 2** — SMA type 2 (intermediate form; Dubowitz disease) accounts for approximately 20 percent of cases and has a less severe course than type 1. SMA type 2 most often presents between 3 and 15 months of age. The ability to sit unassisted is attained at some point but may be delayed. However, independent standing and walking is never achieved. Weakness is predominately proximal and affects the legs more than the arms. Muscular weakness leads to progressive scoliosis in nearly all affected individuals; the combination of respiratory muscle weakness and scoliosis.

DOSAGE AND ADMINISTRATION

Dosing Recommendations:

- Initiation:
 - Spinraza: 12 mg/5ml (5ml)
 - Total four loading doses: the first three loading doses should be administered at 14 day intervals. The 4th loading dose should be administered 30 days after the 3rd dose.
 - 12 mg administered as an intrathecal bolus injection over 1-3 minutes using a spinal anesthesia needle per administration. Do not administer in areas with signs of infection or inflammation.
 - Prior to administration, 5 ml of cerebral spinal fluid should be removed. Imaging guidance may be required for administration.
- Maintenance:
 - 12 mg dose once every 4 months thereafter

- Store refrigerated at 2 – 8 degrees ©; warm to room temperature prior to administration.

RISK FACTORS/SIDE EFFECTS

Hematologic effects: Coagulation abnormalities and thrombocytopenia (including acute severe thrombocytopenia), have been observed with some antisense oligonucleotides; increased risk of bleeding complications may occur. Perform a platelet count and coagulation testing at baseline, prior to each dose and as clinically needed.

Renal toxicity: Renal toxicity, including potentially fatal glomerulonephritis, has been observed with some antisense oligonucleotides. Conduct quantitative spot urine protein testing (preferably using first morning urine) at baseline and prior to each dose. For urinary protein concentration >0.2 g/L, consider repeat testing and further evaluation.

BLACK BOX WARNING

No results available.

MONITORING

Therapeutic

- Physical Findings
 - Motor milestone improvement (e.g., kicking, head control, rolling, sitting, crawling, standing, walking) may indicate efficacy.

Toxic

- Laboratory Parameters
 - Obtain platelet count, prothrombin time, a PTT, and quantitative spot urine protein at baseline, prior to each dose, and as clinically needed.

CODING

Note: The Current Procedural Terminology (CPT®), Healthcare Common Procedure Coding System (HCPCS), and the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) codes that may be listed in this policy are for reference purposes only. Listing of a code in this policy does not imply that the service is covered and is not a guarantee of payment. Other policies and coverage guidelines may apply. When reporting services, providers/facilities should code to the highest level of specificity using the code that was in effect on the date the service was rendered. This list may not be all inclusive.

CPT Code	Description
N/A	N/A

CPT® is a registered trademark of the American Medical Association.

HCPCS Code	Description
J2326	Injection, Nusinersen, 0.1 mg.

ICD 10 Code	Description
G12.0	Infantile spinal muscular atrophy, type I [Werdnig-Hoffman]
G12.1	Other inherited spinal muscular atrophy

POLICY HISTORY

This section provides a high-level summary of changes to the policy since the previous version.

Summary	Version	Version Date
2022 annual review. Policy statement, Prior Authorization and Renewal Criteria revised.	D	5/1/2022
2021 annual policy review. Minor changes were made to criteria #3. (SMAI, SMAII, SMAIII were removed).	C	4/1/2021
2020 annual policy review. Policy statement section added. Prior authorization section revised. References were updated accordingly.	B	6/1/2020
New Policy.	A	6/1/2019

REFERENCES

- 1) Arnold WD, Kassar D, Kissel JT. Spinal muscular atrophy: diagnosis and management in a new therapeutic era. *Muscle Nerve* 2015; 51:157.
- 2) Biogen Inc. U.S. FDA approves Biogen's Spinraza (nusinersen), the first treatment for spinal muscular atrophy. Press Release. Cambridge, MA: Biogen; December 23, 2016.
- 3) Bodamer, O.A. et.al. Spinal Muscular Atrophy. Up to Date, Accessed Feb 26, 2018. Product Information: SPINRAZA(R) intrathecal injection, nusinersen intrathecal injection. Biogen Inc. (per manufacturer), Cambridge, MA, 2018.
- 4) Finkel RS, Chiriboga CA, Vajsar J, et al: Treatment of infantile-onset spinal muscular atrophy with nusinersen: a phase 2, open-label, dose-escalation study. *Lancet* 2016; 388(10063):3017-3026 Gammaked® [prescribing information]. Kedrion Biopharma. 2016 Sept.
- 5) Finkel RS, Mercuri E, Darras BT, et al: Nusinersen versus sham control in infantile-onset spinal muscular atrophy. *N Engl J Med* 2017; 377(18):1723-1732.
- 6) Mercuri E, Darras BT, Chiriboga CA, et al: Nusinersen versus sham control in later-onset spinal muscular atrophy. *N Engl J Med* 2018; 378(7):625-635.
- 7) Prior TW, Finager E Spinal muscular atrophy. GeneReviews. <https://www.ncbi.nlm.nih.gov/books/NBK1352/> (Accessed on December 12, 2017).

- 8) Spinal Muscular Athrophy. Up-To-Date Olaf A Bodamer, MD, PhD, FAAP, FACMG-last update 10/1/19; literature review current through January, 2020.
- 9) Spinraza® [prescribing information]. Biogen Inc., Cambridge, MA. 2017.
- 10) Wang CH, Finkel RS, Bertini ES, et al. Consensus statement for standard care in spinal muscular atrophy. J Child Neurol. 2007 Aug; 22(8): 1027-49.