DR.004.F SPINRAZA® (Nusinersen)

Original Implementation Date : 06/01/2019
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PRODUCT VARIATIONS

This policy applies to all Jefferson Health Plans/Health Partners Plans lines of business unless noted below.

POLICY STATEMENT

We consider SPINRAZA® (Nusenserin) medically necessary for the treatment of spinal muscular atrophy (SMA) when the prior authorization criteria listed in the policy are met.

We consider use of SPINRAZA® experimental and investigational for all other indications.

FDA APPROVED INDICATIONS

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

OFF-LABEL USE

N/A

PRIOR AUTHORIZATION CRITERIA

INITIAL CRITERIA

*AUTHORIZATION DURATION: IF **ALL CRITERIA MET**, APPROVE FOR UP TO 6 MONTHS*

1. Medication is prescribed by or in consultation with a neurologist or pediatric neurologist who specializes in treatment of spinal muscular atrophy.

2. The patient has 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.

3. Patient has genetic testing confirming the presence of one of the following for Spinal Muscular Atrophy (SMA) diagnosis:

   - Homozygous deletions of SMN1 gene (e.g., absence of the SMN1 gene) OR
   - Homozygous mutation in the SMN1 gene (e.g., biallelic mutations of exon 7) OR
   - Compound heterozygous mutation in the SMN1 gene (e.g., deletion of SMN1 exon 7 (allele 1) and mutation of SMN1 (allele 2))

4. The dose prescribed is consistent with U.S. Food and Drug Administration (FDA) approved package labeling, nationally recognized compendia, or peer-reviewed medical literature.

5. Patient has not previously received gene therapy (e.g., 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.

6. Patient has documentation of a baseline score from ONE of the following assessments:

   - Hammersmith Functional Motor Scale Expanded (HFMSE)
   - Hammersmith Infant Neurologic Exam (HINE)
   - Revised Upper Limb Module (RULM) Test
   - Children's Hospital of Philadelphia Infant Test of Neuromuscular Disorders (CHOP INTEND)

7. The patient receives comprehensive treatment based on standards of care for spinal muscular dystrophy.

8. The patient will not be using SPINRAZA® (nusinersen) concomitantly with survival motor neuron (SMN) modifying therapy [e.g., Evrysdi (risdiplam)].

RENEWAL CRITERIA

RENEWAL CRITERIA

*AUTHORIZATION DURATION: IF **ALL CRITERIA MET**, APPROVE FOR UP TO 12 MONTHS*

1. Medication prescribed by or in consultation with a neurologist or pediatric neurologist who specializes in treatment of spinal muscular atrophy.
2. The dose prescribed is consistent with U.S. Food and Drug Administration (FDA) approved package labeling, nationally recognized compendia, or peer-reviewed medical literature.
3. Patient has documentation of an annual evaluation, including a standardized assessment of motor function, by a neurologist with experience treating spinal muscular atrophy.
4. Patient receives comprehensive treatment based on standards of care for spinal muscular atrophy.
5. Patient has the required laboratory tests (platelet count, prothrombin time, activated partial prothrombin time and quantitative spot urine protein) documented prior to each administration.
6. Patient is responding to the medication as demonstrated by clinically significant improvement or stabilization of function from pretreatment baseline status using the same exam performed at baseline assessment.
7. The patient will not be using SPINRAZA (nusinersen) concomitantly with survival motor neuron (SMN) modifying therapy [e.g., Evrysdi (risdiplam)].

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.

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.

BLACK BOX WARNING

No results available.

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. Mothers of affected patients with SMA 0 may recognize a decrease or loss of fetal movement in late pregnancy. 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 of neonatal onset may present with signs of fetal hypokinesia deformation sequence, including polyhydramnios, intrauterine growth retardation, skeletal abnormalities with multiple articular contractures, and pulmonary hypoplasia.
  - 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. Because the upper cranial nerves are mostly spared, patients with SMA type 1 usually have an alert expression, furrowed brow, and normal eye movements. However, weakness of the bulbar

muscles results in a weak cry, poor suck and swallow reflexes, pooling of secretions, tongue fasciculations, and an increased risk of aspiration and failure to thrive. Respiratory muscle weakness leads to progressive respiratory failure. The intercostal muscles typically are more affected than the diaphragm, resulting in paradoxical breathing (inspiratory efforts cause the rib cage to move inward and the abdomen to move outward) and the development of a characteristic bell-shaped chest deformity. The severe hypotonic leg weakness often manifests as a "frog-leg" posture when lying. Cardiac muscle does not appear to be affected, since SMA is not associated with dilated cardiomyopathy.
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. Common features include sparing of face and eye muscles, tongue atrophy with fasciculations, areflexia, a fine tremor-like form of myoclonus (minipolymyoclonus) affecting distal limbs, dysphagia, and respiratory insufficiency. Muscular weakness leads to progressive scoliosis in nearly all affected individuals; the combination of respiratory muscle weakness and Scoliosis may result in restrictive lung disease. Some develop joint contractures and ankylosis of the mandible. The ability to sit independently is usually lost in the teenage years. Life expectancy is variable; one report found that approximately two-thirds of individuals with SMA type 2 were alive at age 25 years.
  - Patients with SMA type 2 generally have three copies of the SMN2.

- **SMA type 3** — SMA type 3 (juvenile form; Kugelberg-Welander disease) accounts for approximately 30 percent of cases. Onset usually occurs between age 18 months and adulthood. Affected individuals achieve independent ambulation. Presenting symptoms are usually a reflection of proximal weakness affecting the legs more than the arms, such as falls and trouble climbing stairs. Many lose the ability to stand or walk independently with time and progression of weakness, becoming wheelchair dependent. Ambulatory patients may develop foot deformity. However, most do not develop scoliosis or debilitating respiratory muscle weakness. SMA type 3 is associated with a normal lifespan. Patients with SMA type 3 generally have three or four copies of SMN2. Patients with SMA type 3 generally have three or four copies of SMN2.

  - Patients with SMA type 3 generally have three or four copies of SMN2.

- **SMA type 4** — SMA type 4 (late onset) accounts for less than five percent of cases. Age of onset is not strictly defined; some experts use onset at age ≥30 years to separate SMA type 4 from SMA type 3, and others accept juvenile onset.

- SMA type 4 is on the mild end of the SMA spectrum; all motor milestones are achieved, ambulation is usually maintained throughout life, and lifespan is normal.

  – Patients with SMA type 4 generally have four to eight copies of SMN2.

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® is a registered trademark of the American Medical Association.

CPT Code	Description
N/A	N/A

HCPCS Code	Description
J2326	Injection, Nusinersen 0.1 mg.

ICD-10 Codes	Description
G12.0	Infantile spinal muscular atrophy, type I [Werdnig-Hoffman]
G12.1	Other inherited spinal muscular atrophy
G12.9	Spinal muscular atrophy, unspecified

DISCLAIMER

Approval or denial of payment does not constitute medical advice and is neither intended to guide nor influence medical decision making. Policy Bulletins are developed to assist in administering plan benefits and constitute neither offers of coverage nor medical advice. This Policy Bulletin may be updated and therefore is subject to change.

For Health Partners Plans Medicaid and Health Partners Plans Chip products: Any requests for services that do not meet criteria set in PARP will be evaluated on a case-by-case basis.

POLICY HISTORY

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

Summary	Version	Version Date
2026 Annual Review. Revisions to Prior authorization criteria, Renewal criteria, ICD 10 codes. References updated.	F	03/18/2026
2025 Annual Review. No changes to content.	E	04/24/2023
2024 Annual review. No Changes to content. References were updated.	E	04/24/2023
2023 annual review. Prior Authorization and Renewal sections were revised for clarity purposes. References were updated.	E	04/24/2023
2022 annual review. Policy statement, Prior Authorization and Renewal Criteria revised.	D	05/01/2022
2021 annual policy review. Minor changes were made to criteria #3. (SMAI, SMAII, SMAIII) were removed.	C	04/01/2021
2020 annual policy review. Policy statement section added. Prior authorization section revised. References were updated accordingly.	B	06/01/2020
New Policy.	A	06/01/2019

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