Utilization Review Policy 233

POLICY: Muscular Dystrophy – Viltepso

- Viltepso™ (viltolarsen intravenous infusion – Nippon Shinyaku)

EFFECTIVE DATE: 1/1/2021
LAST REVISION DATE: 10/2/2025

COVERAGE CRITERIA FOR: All Aspirus Medicare Plans

OVERVIEW

Viltepso, an antisense oligonucleotide, is indicated for the treatment of Duchenne muscular dystrophy (DMD) in patients who have a confirmed mutation of the DMD gene that is amenable to exon 53 skipping.1 This indication was granted accelerated approval based on an increase in dystrophin in skeletal muscle observed in patients treated with Viltepso. The prescribing information notes that continued FDA-approval for this indication may be contingent upon verification of clinical benefit in a confirmatory trial.

Viltepso is an antisense oligonucleotide designed to bind to exon 53 of dystrophin pre-mRNA, resulting in exclusion of this exon during mRNA processing in patients with genetic mutations that are amenable to exon 53 skipping.1 These patients represent up to 10% of all patients with DMD.2 This genetic manipulation intends to restore the reading frame of the resulting mRNA. The result would be production of a shortened, but partially functional dystrophin protein as seen in less severe forms of muscular dystrophy (e.g., Becker muscular dystrophy). Of note, the reading frame of certain deletions (e.g., exon 52 deletions) can be restored by skipping either exon 51 or exon 53.3 Approximately 8% of mutations are amenable to skipping exon 53 with Viltepso but are not amenable to skipping of exon 51.

GUIDELINES

Viltepso and other exon 53 skipping therapies are not addressed in guidelines for DMD. There are guidelines for the diagnosis and management of DMD available from the DMD Care Considerations Working Group (2018).4 Genetic testing for a DMD mutation in a blood sample is always required. By fully characterizing the mutation, the predicted effect on the reading frame can be identified, which is the major determinant of phenotype and will determine eligibility for mutation-specific clinical trials. In patients with no mutation identified but with signs/symptoms of DMD, a muscle biopsy is clinically indicated. Glucocorticoids slow decline in muscle strength and function in DMD. Use of corticosteroids reduces the risk of scoliosis and stabilizes pulmonary function. Continued treatment after the patient loses ambulation provides a reduction in the risk of progressive scoliosis and stabilization of pulmonary function tests. Therefore, glucocorticoids should be considered for all patients with DMD. Exondys 51 (eteplirsen intravenous infusion) is mentioned as an emerging product, approved by an accelerated pathway for those with a mutation in the dystrophin gene amenable to exon 51 skipping.

POLICY STATEMENT

Prior authorization is recommended for medical benefit coverage of Viltepso. Approval is recommended for those who meet the Criteria and Dosing for the listed indication(s). Extended

approvals are allowed if the patient continues to meet the Criteria and Dosing. Requests for doses outside of the established dosing documented in this policy will be considered on a case-by-case basis by an Express Scripts clinician (i.e., Medical Director or Pharmacist). Because of the specialized skills required for evaluation and diagnosis of patients treated with Viltepso, as well as the monitoring required for adverse events and long-term efficacy, initial approval requires Viltepso to be prescribed by or in consultation with a physician who specializes in the condition being treated. All approvals are provided for the durations noted below. In cases where the approval is authorized in months, 1 month is equal to 30 days.

RECOMMENDED AUTHORIZATION CRITERIA

FDA-Approved Indications

1. **Duchenne Muscular Dystrophy (DMD).** Approve Viltepso if the patients meets the following criteria. (A or B).
   - **A)** Initial Therapy. Approve Viltepso for 6 months if the patient meets the following criteria (i, ii, iii, iv, v, vi, vii, viii, ix, and x).
     - **i.** Patient must have a diagnosis of Duchene muscular dystrophy (DMD) AND
     - **ii.** Patient must have a confirmed mutation of the DMD gene that is amenable to exon 53 skipping and provide documentation [documentation required] AND
     - **iii.** Patient has been on a stable dose of corticosteroids, unless contraindicated or intolerant, for ≥ 3 months AND
     - **iv.** Patient retains meaningful voluntary motor function (e.g., patient is able to speak, manipulate objects using upper extremities, ambulate) AND
     - **v.** Patient is receiving physical therapy and/or occupational therapy AND
     - **vi.** Patient is not on concomitant therapy with other DMD-directed antisense oligonucleotides (e.g., eteplirsen, golodirsen) AND
     - **vii.** Patient does not have symptomatic cardiomyopathy AND
     - **viii.** Patient serum cystatin C, urine dipstick, and urine protein-to-creatinine ratio has been measured prior to the start of therapy AND
     - **ix.** Prescriber attests that serum cystatin C, urine dipstick, and urine protein-to-creatinine ratio will be measured and during treatment (monthly urine dipstick with serum cystatin C and urine protein-to creatinine ratio every 3 months) AND
     - **x.** Baseline documentation of ≥ 1 of the following (a, b, or c):
       a. 6-minute walk test (6MWT) or other timed function tests OR
       b. Upper limb function (ULM) test OR
       c. North Star Ambulatory Assessment (NSAA)

   - **B)** Patients Continuing Viltepso Therapy. Approve Viltepso for 6 months if the patient meets the following criteria (i, ii, and iii).
     - **i.** Patient has demonstrated a response to therapy compared to pretreatment baseline in ≥ 1 of the following (a, b, c, ord,):
       - **a.** Stability, improvement, or slowed rate of decline in 6MWT or other timed function tests OR
       - **b.** Stability, improvement, or slowed rate of decline in ULM test OR
       - **c.** Stability, improvement, or slowed rate of decline in NSAA OR
       - **d.** Improvement in quality of life AND

ii. Patient has not experienced any treatment-restricting adverse effects (e.g., renal toxicities, proteinuria)

Dosing in DMD. *Dosing must meet the following weight-based dosing*:
80 mg/kg once weekly - Patient's most current weight (rounded to the nearest kg) must be provided at time of request.

CONDITIONS NOT RECOMMENDED FOR APPROVAL

Viltepso has not been shown to be effective, or there are limited or preliminary data or potential safety concerns that are not supportive of general approval for the following conditions. (Note: This is not an exhaustive list of Conditions Not Recommended for Approval).

1. Coverage is not recommended for circumstances not listed in the Recommended Authorization Criteria. Criteria will be updated as new published data are available.

REFERENCES

1. Viltepso™ intravenous infusion [prescribing information]. Paramus, NJ: Nippon Shinyaku; March 2021.
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3. Bladen CL, Salgado D, Monges S, et al. The TREAT-NMD DMD Global Database: analysis of more than 7,000 Duchenne muscular dystrophy mutations. *Hum Mutat*. 2015;36(4):395-402.
4. Birnkrant DJ, Bushby K, Bann CM, et al. Diagnosis and management of Duchenne muscular dystrophy, part 1: diagnosis, and neuromuscular, rehabilitation, endocrine, and gastrointestinal and nutritional management. *Lancet Neurol*. 2018;17(3):251-267.
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11. Viltepso. MN Department of Human Services. March 2021. Available at: https://mn.gov/dhs/partners-and-providers/policies-procedures/minnesota-health-care-programs/provider/types/rx/pa-criteria/viltepso.jsp. Accessed October 25th, 2025.

HISTORY

Type of Revision	Summary of Changes	Review Date
Annual Revision	No criteria changes.	09/01/2021
Annual Revision	No criteria changes.- verified no updates to MN DHS criteria	08/24/2022
Annual Revision	No criteria changes.- verified no updates to MN DHS criteria	8/30/2023
Annual Revision	Criteria update to align with MN DHS PA Criteria for Viltepso	04/30/2024
Aspirus P&T Review	Policy reviewed and approved by Aspirus P&T committee. Annual review process	09/16/2024
Aspirus P&T Review	Policy reviewed and approved by Aspirus P&T committee. Annual review process	09/15/2025
Annual Revision	Removed exclusion criteria of Patient is currently enrolled in clinical trials for Viltepso as this is no longer included in the MN DHS criteria	10/2/2025