



Effective Date: 10/2020
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Policy Number: C20406-A

Viltepso (viltolarsen) MNR

PRODUCTS AFFECTED

Viltepso (viltolarsen)

COVERAGE POLICY

Coverage for services, procedures, medical devices, and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

This Coverage Guideline provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide Molina Healthcare complete medical rationale when requesting any exceptions to these guidelines

Documentation Requirements:

Molina Healthcare reserves the right to require that additional documentation be made available as part of its coverage determination; quality improvement; and fraud; waste and abuse prevention processes. Documentation required may include, but is not limited to, patient records, test results and credentials of the provider ordering or performing a drug or service. Molina Healthcare may deny reimbursement or take additional appropriate action if the documentation provided does not support the initial determination that the drugs or services were medically necessary, not investigational, or experimental, and otherwise within the scope of benefits afforded to the member, and/or the documentation demonstrates a pattern of billing or other practice that is inappropriate or excessive

DIAGNOSIS:

Duchenne muscular dystrophy (DMD)

REQUIRED MEDICAL INFORMATION:

A. DUCHENNE MUSCULAR DYSTROPHY

1. Documented diagnosis of Duchenne muscular dystrophy (DMD) with mutation amenable to exon 53 skipping confirmed by genetic testing
AND
2. Documentation of baseline evaluation of physical function as documented by the following; evaluations must be within the past 30 days [ALL]
 - a. Member is ambulatory: Results of 6-minute Walk Test (6MWT) \geq 300 meters while walking independently without assistance or devices (without side-by-side assist, cane, walker, wheelchair, etc.)
AND
 - b. ONE (1) or more of the following measurable evaluations to assess physical function or the rate of disease progression (*not an all-inclusive list*). Evaluation must be within the past 30 days.
 - i. Dystrophin level

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- ii. Brooke Upper Extremity Scale
- iii. Forced Vital Capacity assessment

NOTE: The same assessment should be used in the follow-up evaluation for re- authorization of continuation of therapy. If the initial assessment tool is not appropriate (i.e., due to change in member's status or age range of the assessment), submit the rationale for change in assessment tool.

AND

- 3. Documentation member is currently stable on an oral corticosteroid regimen for at least 3 months and is expected to remain on stable corticosteroid regimen, unless contraindicated or intolerant (severe adverse reactions).

AND

- 4. Documentation of baseline lab results (within the past 30 days) and prescriber agrees to submit routine follow-up tests as indicated:
 - a. Urine dipstick (follow-up monthly), and
 - b. Serum cystatin C (follow-up every 3 months), and
 - c. Urine protein-to-creatinine ratio (follow-up every 3 months), and
 - d. GFR using exogenous filtration marker (baseline)

AND

- 5. Prescriber attests Viltepso (viltolarsen) is not prescribed with, or intended for concurrent use with, Vyondys 53 (golodirsen) OR If member is currently on Vyondys 53: Documentation of intent to discontinue therapy required.

AND

- 6. Prescriber attests member has not previously received any gene replacement therapy.

AND

- 7. Documentation of member's weight (in kilograms) (within the last 30 days)

CONTINUATION OF THERAPY:

A. DUCHENNE MUSCULAR DYSTROPHY

- 1. Adherence to therapy at least 85% of the time as confirmed by Prescriber or member's claims history.

AND

- 2. Documentation of no intolerable adverse effects or drug toxicity while on Viltepso (viltolarsen)

AND

- 3. Documentation of positive or stable response to therapy as evidenced by member remaining ambulatory. Follow-up evaluations must be within the past 30days [ALL]
 - a. Results of 6-minute Walk Test (6MWT), while walking independently without assistance or devices (without side-by-side assist, cane, walker, wheelchair, etc.)OR
 - b. ONE (1) or more of the following measurable evaluations to assess physical function or the rate of disease progression (*not an all-inclusive list*). Evaluation must be within the past 30 days.
 - i. Dystrophin level
 - ii. Brooke Upper Extremity Scale
 - iii. Forced Vital Capacity assessment

NOTE: The same assessment should be what was provided on initial review. If the initial assessment tool is not appropriate (i.e., due to change in member's status or age range of the assessment), submit the rationale for change in assessment tool.

AND

- 4. Documentation member continues to receive concurrent corticosteroids, unless contraindicated or intolerant (severe adverse reactions)

DURATION OF APPROVAL:

Initial authorization:-6 months, Continuation of Therapy: – 12 months

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PRESCRIBER REQUIREMENTS:

Prescribed by, or in consultation with, a board-certified neurologist, neuromuscular disorder specialist, or physician experienced in the treatment of Duchenne muscular dystrophy (DMD). [If prescribed in consultation, consultation notes must be submitted with initial request and reauthorization requests]

AGE RESTRICTIONS:

Less than 10 years of age

QUANTITY:

80 mg/kg by IV infusion once weekly

Maximum Quantity Limits – Dose does not exceed 80 mg/kg once weekly

PLACE OF ADMINISTRATION:

The recommendation is that infused medications in this policy will be for pharmacy or medical benefit coverage administered in a place of service that is a non-hospital facility-based location as per the Molina Health Care Site of Care program.

Note: Site of Care Utilization Management Policy applies for Viletepsa (vitrolarsen). For information on site of care, see

[Specialty Medication Administration Site of Care Coverage Criteria \(molinahealthcare.com\)](https://molinahealthcare.com/specialty-medication-administration-site-of-care-coverage-criteria)

DRUG INFORMATION

ROUTE OF ADMINISTRATION:

Intravenous

DRUG CLASS:

Muscular Dystrophy Agents

FDA-APPROVED USES:

Treatment of Duchenne muscular dystrophy (DMD) in patients who have a confirmed mutation of the DMD gene that is amenable to exon 53 skipping

COMPENDIAL APPROVED OFF-LABELED USES:

None

APPENDIX

APPENDIX:

Appendix 1: Duchenne Muscular Dystrophy (DMD)

Muscular dystrophy includes a group of genetic disorders that cause muscle weakness and progressive disability. Duchenne muscular dystrophy (DMD) is the most common and progresses most rapidly. Duchenne muscular dystrophy (DMD)

- A rare genetic disorder characterized by progressive muscle deterioration and weakness
- An X-chromosome-linked disease recessive disorder caused by mutations (mainly deletions) in the dystrophin gene that lead to an absence or defect in the dystrophin protein (a protein that protects muscles from deterioration). Dystrophin is essential for maintenance of myocyte integrity and helps keep muscle cells intact. Dystrophin is located primarily in skeletal and heart muscle.
- As males have only one X chromosome, and therefore one single copy of the dystrophin gene, they have a much higher probability of developing DMD. A small number of females are also affected but remain asymptomatic and only rarely present with a mild form of the disease.

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- The most common type of muscular dystrophy; DMD is caused by an absence of dystrophin, a protein that helps keep muscle cells intact
 - Based on population studies, the prevalence of DMD in the US is estimated to be 0.4 per 10,000 males, resulting in approximately 6,000 affected people in the US (Romitti, 2015)
 - Associated with complete inability to produce functional dystrophin protein
 - Affected children with DMD typically develop symptoms in early childhood around 3-5 years old, experiencing progressive muscle weakness and deterioration. Patients with DMD progressively lose the ability to perform activities independently and usually become non-ambulatory by their early teenage years and require the use of a wheelchair.
 - As the disease progresses, life-threatening heart and respiratory conditions can occur. Patients typically succumb to the disease in their 20s or 30s; however, disease severity and life expectancy vary.
 - In absence of treatment, the patient experiences:
wheelchair dependence before age 13
years death occurs by, or around, age 20
years Prognosis of DMD
 - Death occurs around age 20 in absence of treatment and is usually due to cardiac or respiratory failure
 - Disease progression in patients with DMD Scoliosis is frequent after loss of ambulation
- Risk for cardiomyopathy increases with age in absence of ventilatory intervention

Treatment Overview: Pharmacologic Agents/Conventional Therapy

There is no curative therapy, but management of disease manifestations can prolong survival and improve quality of life. A multidisciplinary team is required for management of patient with DMD and treatment options for DMD predominantly focus on management of symptoms and secondary complications.

Goals of management for DMD

- Preserve strength, ambulation, and ventilatory and cardiac function
- Minimize of steroid complications where applicable
- Prevent and treat complications including contractures, scoliosis, ventilatory function impairment or failure, and cardiomyopathy

- Determine and arrange appropriate school environment and manage family stressors

Other pharmacologic therapies for DMD are primarily aimed at the management of comorbidities such as cardiomyopathy, osteoporosis, pain management, and respiratory failure. These treatment options include angiotensin-converting-enzyme (ACE) inhibitors, beta-blockers, calcium and vitamin D supplements, muscle relaxants, and non-steroidal anti-inflammatory drugs.

- Corticosteroids

DMD Care Considerations Working Group consensus guidelines urge consideration of glucocorticoid therapy (prednisone or deflazacort) for all patients with DMD (optimal dose ranges not established)

Goal in the ambulatory child is to preserve ambulation and minimize later respiratory, cardiac, and orthopedic complications

Goal of continuing glucocorticoid therapy after loss of ambulation is to preserve upper limb strength, reduce scoliosis progression, and delay declines in respiratory and cardiac function

Generally used to preserve ambulation and minimize complications in patients with DMD

In ambulatory patients, recommended if motor skills have plateaued or begun to decline

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In non-ambulatory patients, glucocorticoids often continued if already started while ambulatory, but limited evidence regarding starting glucocorticoids

Daily dosing preferred over alternative regimens (alternate day, high-dose weekend, or 10-day cycles)

Monitor and manage side effects associated with chronic steroid therapy

- Vitamin D and calcium supplementation suggested to manage bone health in patients with DMD
- Respiratory care including airway clearance techniques, nocturnal ventilatory support, daytime non-invasive ventilation, and tracheostomy may be indicated/desired as disease progresses
- For management of cardiac dysfunction, consider:

Diuretics, angiotensin-converting enzyme (ACE) inhibitors, and/or beta blockers to treat manifestations of cardiac dysfunction

Anticoagulation therapy in patients with severe cardiac dysfunction to prevent systemic thromboembolic events

Appendix 2: Guidelines

American Academy of Neurology guideline update on corticosteroid treatment of Duchenne dystrophy can be found in *Neurology* 2016 Feb 2;86(5):465 or at National Guideline Clearinghouse 2016 Jun 6:50008

American Academy of Pediatrics (AAP) policy statement on cardiovascular health supervision for individuals affected by Duchenne or Becker muscular dystrophy can be found in *Pediatrics* 2005 Dec;116(6):1569 full-text, reaffirmed 2008 Dec, commentary can be found in *Pediatrics* 2006 May;117(5):1864 full-text

United States expert consensus guideline on diagnosis and management of Duchenne muscular dystrophy

- Part 1: Diagnosis, pharmacological and psychosocial management can be found in *Lancet Neurol* 2010 Jan;9(1):77 PDF or at National Guideline Clearinghouse 2010 Aug 2:15644
- Part 2: Implementation of multidisciplinary care can be found in *Lancet Neurol* 2010 Feb;9(2):177 PDF or at National Guideline Clearinghouse 2010 Aug 2:15645

BACKGROUND AND OTHER CONSIDERATIONS

BACKGROUND:

The best available evidence is limited to a single published report on a phase 2 dose-finding study (NCT02740972; Clemens et al., 2020). This multicenter 2-period randomized clinical trial of low-dose (40 mg/kg per week) and high-dose (80 mg/kg per week) viltolarsen in participants with Duchenne muscular dystrophy (DMD) amenable to exon 53 skipping enrolled 8 participants in each dose cohort. In both cohorts, participant screening, clinical assessments, and a baseline skeletal muscle biopsy were performed before the first administration of the study drug.

Eligible participants were boys aged 4 to 9 years who were ambulatory, on a stable dose of glucocorticoids for 3 months prior to enrollment, and able to complete time to stand from supine, time to run/walk 10 meters, and time to climb 4 stairs assessments at screening. Of the 16 participants, 15 (94%) were white, and the mean (SD) age was 7.4 (1.8) years.

The first study period (the first 4 weeks of treatment) was double-blinded and placebo-controlled. Participants in both dose cohorts were randomized 3:1 to receive viltolarsen or placebo. In each dose

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cohort, a minimum of 1 week was required between the initial dosing of each of the first 4 participants to monitor for safety. After the fourth participant received the initial dose, the remaining participants could receive treatment.

The second study period began at week 5 for each participant. During this period, all participants received viltolarsen according to their cohort dose for a 20-week open-label treatment period. Following completion of the 24-week treatment period, each participant had a post-treatment skeletal muscle biopsy performed. All 16 participants completed 24 weeks of treatment.

Disease progression was measured using timed function tests and muscle strength assessments. Comparison of viltolarsen-treated participants with 65 age-matched and treatment-matched natural history controls from CINRG, Cooperative International Neuromuscular Research Group demonstrated evidence of clinical benefit of viltolarsen treatment

Results

After 20 to 24 weeks of treatment:

- 100% of Viltolarsen-treated patients (8/8) showed an increase in dystrophin levels; 88% of patients (7/8) showed dystrophin levels of 3% or greater than normal
- A mean increase in dystrophin expression to nearly 6% (5.9%) of normal was observed with Viltepso (80 mg/kg/wk) versus 0.6% at baseline
- Significant drug-induced dystrophin production was seen in both viltolarsen dose cohorts: 40 mg/kg per week: mean (range) 5.7% [3.2-10.3] of normal
80 mg/kg per week: mean [range] 5.9% [1.1-14.4] of normal)

Compared with 65 age-matched and treatment-matched natural history controls, all 16 participants treated with viltolarsen showed significant improvements in timed function tests from baseline. The treatment-matched natural history control group demonstrated a decline in timed function tests.

- The time to run/walk 10 meters test significantly improved in viltolarsen-treated participants at weeks 13 and 25 compared with a decline in the natural history control group.: (viltolarsen: 0.23 m/s; control: -0.04 m/s),
- The 6-minute Walk Test (6MWT) showed significant improvement in viltolarsen-treated participants, whereas results from natural history controls declined over the same period: (viltolarsen: 28.9 m; control: -65.3 m)
- Time to stand from supine test and time to climb 4 stairs test displayed improvement or stabilization, but the differences were not significant between viltolarsen treatment and the natural history control group: (viltolarsen: -0.19 s; control: 0.66 s)

Viltolarsen was well tolerated; no treatment-emergent adverse events required dose reduction, interruption, or discontinuation of the study drug. No serious adverse events or deaths occurred during the study.

As with all oligonucleotides, there is potential for immunogenicity. However, both study 1 and 2 demonstrated a lack of observed immunogenicity, which indicates that viltolarsen is not highly immunogenic.

CLINICAL GUIDELINES

No published guidelines were identified that addressed the use of viltolarsen for the treatment of DMD (August 2020)

Related DMD Evidence Reports and Guidelines

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The Institute for Clinical and Economic Review (ICER), published an Evidence Report assessing the comparative clinical benefit and value of the corticosteroid deflazacort (Emflaza), and two exon-skipping therapies eteplirsen (Exondys 51™) and golodirsen for the treatment DMD. Viltepso was not included in this review.

ICER noted:

- The exon-skipping therapies, eteplirsen and golodirsen, cannot be assessed for cost-effectiveness because “no persuasive evidence yet exists to demonstrate the clinical effectiveness of either drug.”
- Data for exon-skipping therapies consist primarily of surrogate outcomes (e.g., dystrophin levels) from very small trials that have no validated threshold that defines meaningful clinical improvement. The small increases in dystrophin levels seen in the RCTs are of uncertain clinical significance.
- Both eteplirsen and golodirsen have been shown to increase production of dystrophin, which is deficient in DMD, although dystrophin levels remained very low. The best results were for golodirsen, according to the report; at 48 weeks, the mean level of dystrophin had increased to 1.019 percent of normal. There is no validated threshold in dystrophin levels associated with meaningful clinical improvement.
- There is found no evidence demonstrating improvements in muscle strength, motor function, ambulation, or pulmonary function.
- No functional outcome results have been reported for golodirsen.
- There was insufficient evidence to judge the net health benefit of adding golodirsen compared with using corticosteroids and supportive care alone.

DUCHENNE MUSCULAR DYSTROPHY CARE CONSIDERATIONS WORKING GROUP

Diagnosis and Management of Duchenne Muscular Dystrophy, Part 1: Diagnosis, and Pharmacological and Psychosocial management (Bushby et al 2010)

- Glucocorticoids are the only medications currently available that slow the decline in muscle strength and function in DMD, which in turn reduces the risk of scoliosis and stabilizes pulmonary function. Cardiac function might also improve, with limited data to date indicating a slower decline in echocardiographic measures of cardiac dysfunction, although these measures are not necessarily predictive of the delay in cardiac symptoms, signs, or cardiac-related mortality.
- The goal of the use of glucocorticoids in the ambulatory child is the preservation of ambulation and the minimization of later respiratory, cardiac, and orthopedic complications, considering the well-described risks associated with chronic glucocorticoid administration. Particular care needs to be taken with such patients in deciding which glucocorticoid to choose, when to initiate treatment, and how best to monitor the child for any problems.
- No generally accepted guidelines exist in the literature about the best time to initiate glucocorticoid therapy in an ambulatory boy with DMD. The panel's opinion is that the timing of initiation of glucocorticoid therapy must be an individual decision, based on functional state and also considering age and pre-existing risk factors for adverse effects (AEs). Initiation of glucocorticoid treatment is not recommended for a child who is still gaining motor skills, especially when he is under 2 years of age.
- The typical boy with DMD continues to make progress in motor skills until approximately age 4 to 6 years, albeit at a slower rate than his peers. The eventual use of glucocorticoids should be discussed with caregivers at this stage, in anticipation of the plateau in motor skills and subsequent decline. Once the plateau phase has been clearly identified, usually at age 4 to 8 years, the clinician should propose initiation of glucocorticoids unless there are substantial reasons (such as major pre-existing risk factors for AEs) to wait until the decline phase. Starting steroids when in the full decline phase or when

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ambulation is more marginal is still recommended but might be of more limited benefit.

- Prednisone (prednisolone) and deflazacort are believed to work similarly and neither one has a clearly superior effect on altering the decline in motor, respiratory, or cardiac function in DMD. The choice of which glucocorticoid to use depends on legal availability, cost, formulation, and perceived AE profiles. Prednisone is inexpensive and available in tablet and liquid formulations. Where available, deflazacort is more expensive and comes in fewer tablet sizes. Deflazacort might be preferred to prednisone for some patients because of the likely lower risk of weight gain.

CONTRAINDICATIONS/EXCLUSIONS/DISCONTINUATION:

All other uses of Viltepso (viltolarsen) are considered experimental/investigational and therefore, will follow Molina's Off- Label policy.

OTHER SPECIAL CONSIDERATIONS:

None

CODING/BILLING INFORMATION

Note: 1) This list of codes may not be all-inclusive. 2) Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement

HCPSC CODE	DESCRIPTION
J1427	Injection, viltolarsen, 10 mg

AVAILABLE DOSAGE FORMS:

Viltepso SOLN 250MG/5ML

REFERENCES

1. Viltepso (viltolarsen) [prescribing information]. Paramus, NJ: NS Pharma Inc; March 2021.
2. FDA approves targeted treatment for rare duchenne muscular dystrophy mutation. News release. US Food and Drug Administration. August 12, 2020. Available at: <https://www.prnewswire.com/news-releases/fda-approves-targeted-treatment-for-rare-duchenne-muscular-dystrophy-mutation-301111213.html> Accessed August 2020
3. Expanded access program launched for viltolarsen, an investigational exon 53 skipping antisense oligonucleotide. News release. NS Pharma. March 9, 2020. Available at: https://www.nspharma.com/pdf/news_release/press_release_NSP20200309.pdf Accessed August

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2020

4. Clemens PR, Rao VK, Connolly AM, et al. Safety, Tolerability, and Efficacy of Viltolarsen in Boys With Duchenne Muscular Dystrophy Amenable to Exon 53 Skipping: A Phase 2 Randomized Clinical Trial [published online ahead of print, 2020 May 26] [published correction appears in doi: 10.1001/jamaneurol.2020.2025]. JAMA Neurol. 2020;77(8):1-10. doi:10.1001/jamaneurol.2020.1264 Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7251505/> Accessed August 2020
5. Frank DE, Schnell FJ, Akana C, El-Husayni SH, Desjardins CA, Morgan J, Charleston JS, Sardone V, Domingos J, Dickson G, Straub V, Guglieri M, Mercuri E, Servais L, Muntoni F; SKIP-NMD Study Group. Increased dystrophin production with golodirsen in patients with Duchenne muscular dystrophy. Neurology. 2020 May 26;94(21):e2270-e2282. doi: 10.1212/WNL.0000000000009233. Epub 2020 Mar 5.
6. Romitti PA, Zhu Y, Puzhankara S, et al. Prevalence of Duchenne and Becker muscular dystrophies in the United States. Pediatrics 2015; 135:513. Available at: <http://pediatrics.aappublications.org/content/135/3/513.long> Accessed Feb 2020..
7. Ryder S, Leadley RM, Armstrong N, et al. The burden, epidemiology, costs and treatment for Duchenne muscular dystrophy: an evidence review. Orphanet J Rare Dis 2017; 12:79.
8. Wein N, Alfano L, Flanigan KM. Genetics and emerging treatments for Duchenne and Becker muscular dystrophy. Pediatr Clin North Am 2015; 62:723.
9. **Other References**
10. Darras, B. T. Duchenne and Becker muscular dystrophy: Clinical features and diagnosis. Jan 2020. UpToDate Online [via subscription only]. ~~Accessed Feb 2020.~~
11. Darras, B. T. Duchenne and Becker muscular dystrophy: Glucocorticoid and disease-modifying treatment. 08 Jan 2020. UpToDate Online [via subscription only]. ~~Accessed Aug 2020.~~
12. 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. The Lancet Neurology. 2018;17(3):251-267. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5869704/> Accessed Aug 2020.
13. Duchenne Muscular Dystrophy Care Considerations Working Group. Bushby K, Finkel R, Birnkrant DJ, et al; Diagnosis and management of Duchenne muscular dystrophy, part 2: implementation of multidisciplinary care. Lancet Neurol. 2010 Feb;9(2):177-89 Available at: Link Accessed Aug 2020.
14. Institute for Clinical and Economic Review. Deflazacort, Eteplirsen, and Golodirsen for Duchenne Muscular Dystrophy: Effectiveness and Value. Final Evidence Report: August 15, 2019. Available at: https://icer-review.org/wp-content/uploads/2018/12/ICER_DMD-Final-Report_081519.pdf Accessed Aug 2020.

SUMMARY OF REVIEW/REVISIONS	DATE
REVISION- Notable revisions: Required Medical Information Continuation of Therapy Duration of Approval References	Quarter 2 2022
Q2 2022 Established tracking in new format	Historical changes on file