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Section:	Prescription Drugs	**Effective Date:**	October 1, 2024
Subsection:	Neuromuscular Drugs	**Original Policy Date:**	March 19, 2021
Subject:	Amondys 45	**Page:**	1 of 6

Last Review Date: September 6, 2024

Amondys 45

Description

Amondys 45 (casimersen)

Background
Amondys 45 (casimersen) is an antisense oligonucleotide indicated for the treatment of Duchenne muscular dystrophy (DMD) designed to bind to exon 45 of dystrophin pre-mRNA resulting in exclusion of this exon during mRNA processing in patients with genetic mutations that are amenable to exon 45 skipping. Exon 45 skipping is intended to allow for production of an internally truncated dystrophin protein in patients with genetic mutations that are amenable to exon 45 skipping (1).

Regulatory Status
FDA-approved indication: Amondys 45 is an antisense oligonucleotide 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 45 skipping (1).

Kidney toxicity may occur in patients treated with Amondys 45. Kidney toxicity, including potentially fatal glomerulonephritis, has been observed after administration of some antisense oligonucleotides. Kidney function should be monitored in patients taking Amondys 45. Because of the effect of reduced skeletal muscle mass on creatinine measurements, creatinine may not be a reliable measure of kidney function in DMD patients. Serum cystatin C, urine dipstick, and urine protein-to-creatinine ratio should be measured before starting Amondys 45. During treatment, urine dipstick should be monitored every month, and serum cystatin C and urine protein-to-creatinine ratio every 3 months. Only urine expected to be free of excreted Amondys

45 should be used for monitoring of urine protein. Urine obtained on the day of Amondys 45 infusion prior to the infusion, or urine obtained at least 48 hours after the most recent infusion, may be used (1).

Monitoring motor changes in patients with DMD requires functional evaluation along with measurement of muscle strength. The need for a reliable outcome measure in diseases of rapid deterioration such as DMD has led to the use of motor functional tests. In a large, multicenter, international clinical trial, the six minute walk test (6MWT) proved to be feasible and highly reliable. Also used are the Motor Function Measure (MFM) and North Star Ambulatory Assessment (NSAA) to help predict loss of ambulation 1 year before its occurrence in order to allow time to adapt rehabilitation, change the patient's environment, and consider acquisition of assistive aids or the use of medications (2-4).

Amondys 45 is indicated for patients who have a confirmed mutation of the *DMD* gene that is amenable to exon 45 skipping, including pediatric patients. There is no experience with the use of Amondys 45 in DMD patients 65 years of age or older (1).

Related policies
Agamree, Duvyzat, Elevidys, Emflaza, Exondys 51, Viltepso, Vyondys 53

Policy

This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.

Amondys 45 may be considered **medically necessary** if the conditions indicated below are met.

Amondys 45 may be considered **investigational** for all other indications.

Prior-Approval Requirements

Age 20 years of age or younger

Diagnosis

Patient must have the following:

Duchenne muscular dystrophy (DMD)

AND ALL the following:

1. Confirmed mutation of the DMD gene that is amenable to exon 45 skipping
2. Prescribed by or in consultation with a neurologist specializing in DMD
3. Prescriber agrees to measure serum cystatin C, urine dipstick, and urine protein-to-creatinine ratio prior to initiation of therapy
4. Prescriber agrees to monitor for renal toxicity during treatment
5. Obtain a baseline muscle strength score from **ONE** of the following:
   a. 6-minute walk test (6MWT)
   b. North Star ambulatory assessment (NSAA)
   c. Motor Function Measure (MFM)
6. **NO** concurrent therapy with another exon skipping therapy for DMD (see Appendix 1)

Prior – Approval *Renewal* Requirements

Age 20 years of age or younger

Diagnosis

Patient must have the following:

Duchenne muscular dystrophy (DMD)

AND ALL of the following:

1. Prescriber agrees to monitor for renal toxicity during treatment
2. Patient has had an improvement from baseline in **ONE** of the following:
   a. 6-minute walk test (6MWT)
   b. North Star ambulatory assessment (NSAA)
   c. Motor Function Measure (MFM)
3. **NO** concurrent therapy with another exon skipping therapy for DMD (see Appendix 1)

Policy Guidelines

Pre - PA Allowance

None

Prior - Approval Limits

Duration 12 months

Prior – Approval *Renewal* Limits

Duration 24 months

Rationale

Summary

Amondys 45 (casimersen) is an antisense oligonucleotide 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 45 skipping. Kidney toxicity may occur in patients treated with Amondys 45. There is no experience with the use of Amondys 45 in DMD patients 65 years of age or older (1).

Prior approval is required to ensure the safe, clinically appropriate, and cost-effective use of Amondys 45 while maintaining optimal therapeutic outcomes.

References

1. Amondys 45 [package insert]. Cambridge, MA: Sarepta Therapeutics, Inc; March 2023.
2. Mcdonald C, Henricson E, et al. The 6-Minute Walk test and Other Clinical Endpoints in Duchenne Muscular Dystrophy: Reliability, Concurrent Validity, and Minimal Clinically Important Differences from a Multicenter Study. Muscle Nerve. 2013 Sep; 48(3): 357‑368.
3. Mcdonald C, Henricson E, et al. The 6-Minute Walk test and Other Endpoints in Duchenne Muscular Dystrophy: Longitudinal Natural History Observations Over 48 weeks from a Multicenter Study. Muscle Nerve. 2013 Sep; 48(3): 343‑356.
4. Vuillerot C, Girardot F, et al. Monitoring changes and predicting loss of ambulation in Duchenne muscular dystrophy with the Motor Function Measure. *Developmental Medicine & Child Neurology* 2010, 52: 60–65.

Policy History

Date	Action
March 2021	Addition to PA
June 2021	Annual editorial review

March 2022	Annual review
March 2023	Annual review. Changed policy number to 5.75.035
December 2023	Annual review and reference update
March 2024	Annual review
June 2024	Annual review
September 2024	Annual editorial review

Keywords

This policy was approved by the FEP® Pharmacy and Medical Policy Committee on September 6, 2024 and is effective on October 1, 2024.

Appendix 1 - List of Exon Skipping Therapies for Duchenne Muscular Dystrophy (DMD)

Generic Name	Brand Name
casimersen	Amondys 45
eteplirsen	Exondys 51
golodirsen	Vyondys 53
viltolarsen	Viltepso