PHARMACY POLICY STATEMENT
Michigan Medicaid

DRUG NAME	Lenmeldy (atidarsagene autotemcel)
BENEFIT TYPE	Medical
STATUS	Prior Authorization Required

Lenmeldy, approved by the FDA in 2024, is an autologous hematopoietic stem cell-based gene therapy indicated for the treatment of children with pre-symptomatic late infantile (PSLI), pre-symptomatic early juvenile (PSEJ) or early symptomatic early juvenile (ESEJ) metachromatic leukodystrophy (MLD).
MLD is a rare, progressive genetic lysosomal storage disorder caused by insufficient enzymatic activity of arylsulfatase A (ARSA). This leads to accumulation of sulfatides, resulting in dysfunction and destruction of the myelin sheaths of the central and peripheral nervous systems, with consequential deterioration of neurodevelopment and neurocognition. Most cases are due to mutations in the ARSA gene. The 3 subtypes of MLD are late infantile (LI), juvenile, and adult. LI is the most common and most severe.
Lenmeldy is a gene therapy consisting of autologous CD34+ cells, containing hematopoietic stem cells (HSCs), transduced with a lentiviral vector (LVV) encoding the ARSA gene. One-time administration adds functional copies of ARSA gene into the child's own HSCs to produce ARSA enzyme to breakdown or prevent harmful accumulation of sulfatides, aiming to preserve motor and cognitive functions, slow demyelination, and extend survival.

Lenmeldy (atidarsagene autotemcel) will be considered for coverage when the following criteria are met:

Metachromatic Leukodystrophy (MLD)

For **initial** authorization:

1. Medication must be prescribed by or in consultation with a neurologist, metabolic specialist, or medical geneticist; AND
2. Member has a documented diagnosis of one of the following:
   a) Pre-symptomatic late infantile (PSLI) MLD: expected disease onset at 30 or fewer months of age AND absence of neurological signs and symptoms of MLD, or
   b) Pre-symptomatic early juvenile (PSEJ) MLD: expected disease onset >30 months and <7 years of age AND absence of neurological signs and symptoms of MLD or physical exam findings limited to abnormal reflexes and/or clonus, or
   c) Early symptomatic early juvenile (ESEJ) MLD: disease onset >30 months and <7 years of age AND walking independently as defined by a gross motor function classification for MLD (GMFC-MLD) level ≥2 AND an IQ of 85 or greater (GMFC and IQ results must be submitted); AND
3. Member has lab results that show ARSA activity below the normal range; AND
4. Member has genetic testing results that show two disease-causing ARSA alleles (for LI-MLD or EJ-MLD); AND
5. Member has documentation of negative screening results for all of the following: hepatitis B virus (HBV), hepatitis C virus (HCV), human T-lymphotrophic virus 1 & 2 (HTLV-1/HTLV-2), human immunodeficiency virus 1 & 2 (HIV-1/HIV-2), cytomegalovirus (CMV), mycoplasma infection.
6. **Dosage allowed/Quantity limit:** A single dose for infusion containing a suspension of CD34+ cells in one to eight infusion bags, based on weight and disease subtype.

Table 1: Minimum and Maximum Recommended Dose of LENMELDY

MLD Subtype	Minimum Recommended Dose ($CD34^+$ cells/kg)	Maximum Recommended Dose ($CD34^+$ cells/kg)
Pre-symptomatic late infantile	4.2×10^6	30×10^6
Pre-symptomatic early juvenile	9×10^6	30×10^6
Early symptomatic early juvenile	6.6×10^6	30×10^6

If all the above requirements are met, the medication will be approved for 3 months.

For **reauthorization**:

1. Lenmeldy will not be reauthorized.

HAP CareSource considers Lenmeldy (atidarsagene autotemcel) not medically necessary for the treatment of conditions that are not listed in this document. For any other indication, please refer to the Off-Label policy.

DATE	ACTION/DESCRIPTION
03/29/2024	New policy for Lenmeldy created.

References:

1. Lenmeldy [prescribing information]. Orchard Therapeutics; 2024.
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3. Fumagalli F, Calbi V, Natali Sora MG, et al. Lentiviral haematopoietic stem-cell gene therapy for early-onset metachromatic leukodystrophy: long-term results from a non-randomised, open-label, phase 1/2 trial and expanded access. *Lancet.* 2022;399(10322):372-383. doi:10.1016/S0140-6736(21)02017-1
4. Lamichhane A, Rocha Cabrero F. Metachromatic Leukodystrophy. [Updated 2023 Jul 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK560744/
5. Gomez-Ospina N. Arylsulfatase A Deficiency. 2006 May 30 [Updated 2024 Feb 8]. In: Adam MP, Feldman J, Mirzaa GM, et al., editors. GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2024. Available from: https://www.ncbi.nlm.nih.gov/books/NBK1130/
6. Fahim SM, Lin G, Suh K, et al. Atidarsagene autotemcel for metachromatic leukodystrophy. *J Manag Care Spec Pharm*. 2024;30(2):201-205. doi:10.18553/jmcp.2024.30.2.201
7. Shaimardanova AA, Chulpanova DS, Solovyeva VV, et al. Metachromatic Leukodystrophy: Diagnosis, Modeling, and Treatment Approaches. *Front Med (Lausanne*). 2020;7:576221. Published 2020 Oct 20. doi:10.3389/fmed.2020.576221

Effective date: 10/01/2024
Revised date: 03/29/2024