CARECONTINUUM™

UTILIZATION MANAGEMENT MEDICAL POLICY

POLICY: Enzyme Replacement Therapy – Lamzede Utilization Management Medical Policy
- Lamzede® (velmanase alfa-tycv intravenous infusion – Chiesi)

REVIEW DATE: 03/05/2025

OVERVIEW

Lamzede, a recombinant human lysosomal alpha-mannosidase, is indicated for the treatment of **non-central nervous system manifestations of alpha-mannosidosis** in adult and pediatric patients.[1]

Disease Overview

Alpha-mannosidosis is an ultra-rare autosomal recessive lysosomal storage disease. It is estimated to occur in 1 to 2:1,000,000 live births.[2] Alpha-mannosidosis results from reduced activity of the lysosomal enzyme, alpha-mannosidase, which is caused by gene variants in Mannosidase Alpha Class 2B Member 1 (*MAN2B1*). This results in accumulation of mannose-rich oligosaccharides in various tissues, which leads to significant and diverse multi-systemic manifestations. This can include progressive motor function disturbances and physical disability, hearing and speech impairment, intellectual disability, and immune deficiency. Lamzede is the first and only enzyme replacement therapy approved for alpha-mannosidosis in the United States. There are no other FDA approved therapies for alpha-mannosidosis. Treatment is generally targeted towards management of the various clinical manifestations of the disease. Hematopoietic stem cell transplantation (HSCT) has been used to prevent cognitive decline, preserve neurocognitive function, and prevent early death.[2-4] However, not all patients are eligible for HSCT and it is associated with the risk of mortality and complications. Lamzede has been approved by the European Medicines Agency (EMA) in 2018. Diagnosis of alpha-mannosidosis is confirmed by molecular genetic testing and identification of biallelic pathogenic variants in *MAN2B1*.[5] Alpha-mannosidase enzyme activity in peripheral blood leukocytes is 5% to 10% of normal activity in affected individuals.

Clinical Efficacy

The efficacy of Lamzede in adult and pediatric patients with alpha-mannosidosis was established in two pivotal studies (rhLAMAN-05 and rhLAMAN-08) and one non-pivotal trial (rhLAMAN-10).[2-4] Patients with a confirmed diagnosis of alpha-mannosidosis, defined as alpha-mannosidase activity less than 10% of normal activity in blood leukocytes were enrolled. Lamzede demonstrated a statistically significant clearance of serum oligosaccharides vs. placebo in the pivotal trials. Lamzede also demonstrated improvement in endurance, pulmonary function, motor proficiency testing, and a decrease in serum immunoglobulins.

Dosing Information

The recommended dosage of Lamzede is 1 mg/kg (actual body weight) administered once every week as an intravenous infusion.[1] The total volume of infusion is determined by the patient's actual body weight and should be administered over a minimum of 60 minutes for patients weighing up to 49 kg. Patients weighing ≥ 50 kg should be infused at a maximum infusion rate of 25 mL/hour to control the protein load.

Safety

Lamzede has a Boxed Warning for hypersensitivity reactions, including anaphylaxis.[1] Other Warnings/Precautions for Lamzede include infusion-associated reactions and embryofetal toxicity.

Pretreatment with antihistamines, antipyretics, and/or corticosteroids should be considered to reduce the risk of hypersensitivity and infusion-related reactions.

POLICY STATEMENT

Prior Authorization is recommended for medical benefit coverage of Lamzede. Approval is recommended for those who meet the **Criteria** and **Dosing** for the listed indication. 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 a clinician (i.e., Medical Director or Pharmacist). All approvals are provided for the duration noted below. Because of the specialized skills required for evaluation and diagnosis of patients treated with Lamzede as well as the monitoring required for adverse events and long-term efficacy, approval requires Lamzede to be prescribed by or in consultation with a physician who specializes in the condition being treated.

Automation: None.

RECOMMENDED AUTHORIZATION CRITERIA

Coverage of Lamzede is recommended in those who meet the following criteria:

FDA-Approved Indication

1. **Alpha-mannosidosis.** Approve for 1 year if the patient meets ALL of the following (A, B, C, and D):
   - **A)** Patient has a confirmed diagnosis of alpha-mannosidosis, defined as alpha-mannosidase activity less than 10% of normal activity in blood leukocytes; AND
   - **B)** Patient has biallelic pathogenic variants in Mannosidase Alpha Class 2B Member 1 (*MAN2B1)* as confirmed by genetic testing; AND
   - **C)** Patient has non-central nervous system manifestations; AND
     Note: Examples of non-central nervous system manifestations include progressive motor function disturbances, physical disability, hearing and speech impairment, skeletal abnormalities, and immune deficiency.
   - **D)** The medication is prescribed by or in consultation with a geneticist, endocrinologist, a metabolic disorder sub-specialist, or a physician who specializes in the treatment of lysosomal storage disorders.

   Dosing. Approve up to 1 mg/kg (actual body weight) administered by intravenous infusion no more frequently than every week.

CONDITIONS NOT RECOMMENDED FOR APPROVAL

Coverage of Lamzede is not recommended in the following situations:

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. Lamzede® intravenous infusion [prescribing information]. Cary, NC: Chiesi USA; February 2023.
2. Borgwardt L, Guffon N, Amraoui Y, et al. Efficacy and safety of velmanase alfa in the treatment of patients with alpha-mannosidosis: results from the core and extension phase analysis of a phase III multicentre, double-blind, randomised, placebo-controlled trial. *J Inherit Metab Dis*. 2018;41(6):1215-1223.
3. Guffon N, Konstantopoulou V, Hennermann JB, et al. Long-term safety and efficacy of velmanase alpha (VA) treatment in children under 6 years of age with alpha-mannosidosis (AM). Presented at: 14th International Congress of Inborn Errors of Metabolism (ICIEM 2021); Sydney, Australia; November 21-23, 2021.
4. Lund A, Borgwardt L, Cattaneo F, et al. Comprehensive long-term efficacy and safety of recombinant human alpha-mannosidase (velmanase alfa) treatment in patients with alpha-mannosidosis. *J Inherit Metab Dis*. 2018;41:1225-1233.
5. Guffon N, Tylki-Szymanska A, Borgwardt L, et al. Recognition of alpha-mannosidosis in paediatric and adult patients: Presentation of a diagnostic algorithm from an international working group. *Mol Genet Metab*. 2019;126(4):470-474.

HISTORY

Type of Revision	Summary of Changes	Review Date
New Policy	--	03/08/2023
Selected Revision	**Alpha-mannosidosis:** The following criteria was added "Patient has biallelic pathogenic variants in Mannosidase Alpha Class 2B Member 1 (*MAN2B1)* as confirmed by mutation testing."	03/22/2023
Annual Revision	No criteria changes.	03/06/2024
Annual Revision	**Alpha-mannosidosis:** Regarding genetic testing, the term "mutation" was rephrased to state "genetic".	03/05/2025