Subject:	Lumizyme (alglucosidase alfa)		
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Overview

This document addresses Lumizyme (alglucosidase alfa), an enzyme replacement used for the specific indication as a treatment of Pompe disease. Pompe disease is a rare autosomal recessive disorder caused by a deficiency of acid alpha-glucosidase (GAA), an enzyme that degrades lysosomal glycogen.

Clinically, Pompe disease or glycogen storage disease type II (GSDII) presents as a wide spectrum ranging from the severe rapidly progressive infantile-onset form to a more slowly progressive late-onset form. The American College of Medical Genetics (ACMG) Work Group on Management of Pompe Disease (2006) developed algorithms to diagnose and manage both types of Pompe disease. The level of residual activity of the GAA enzyme drives Pompe disease severity and age of symptoms onset. GAA gene sequencing may be used to confirm a diagnosis or when there are discordant GAA enzyme activity studies (American Association of Neuromuscular and Electrodiagnostic Medicine [AANEM] 2009).

Myozyme is no longer available and Lumizyme is the only alglucosidase alfa product indicated for use in the United States.

Lumizyme has a black box warning for the risk of anaphylaxis, hypersensitivity and immune-mediated reactions, and risk of cardiorespiratory failure.

In 2020, an update in the package label brings attention to the potential of those with infantile-onset Pompe disease should have a cross-reactive immunologic material (CRIM) assessment early in their disease course as CRIM status has been shown to be associated with immunogenicity and individuals' responses to enzyme replacement therapies.

Clinical Criteria

When a drug is being reviewed for coverage under a member's medical benefit plan or is otherwise subject to clinical review (including prior authorization), the following criteria will be used to determine whether the drug meets any applicable medical necessity requirements for the intended/prescribed purpose.

Lumizyme (alglucosidase alfa)

Requests for Lumizyme (alglucosidase alfa) may be approved if the following criteria are met:

I. Individual has a diagnosis of infantile-onset Pompe disease as confirmed by all of the following (ACMG 2006):
   A. Documentation is provided for acid alpha-glucosidase deficiency (GAA) activity in skin fibroblasts of less than 1% of the normal mean or by GAA gene sequencing (AANEM 2009); **AND**
   B. Confirmation of symptoms (for example respiratory and/or skeletal muscle weakness); **AND**
   C. Confirmed evidence of hypertrophic cardiomyopathy;

OR

II. Individual has a diagnosis of non-infantile onset (late-onset) Pompe disease as confirmed by all of the following (ACMG 2006):

A. Documentation is provided for GAA enzyme assay which shows reduced enzyme activity less than 40% of the lab specific normal mean value; **AND**
B. Documentation is provided for a second GAA enzyme activity assay in a separate sample (from purified lymphocytes, fibroblasts or muscle) or by GAA sequencing (AANEM 2009); **AND**
C. Forced vital capacity (FVC) 30 – 79% of predicted value, and documentation is provided; **AND**
D. Ability to walk 40 meters on a 6- minute walk test (assisted devices permitted), and documentation is provided; **AND**
E. Muscle weakness in the lower extremities.

Quantity Limits

Lumizyme (alglucosidase alfa) Quantity Limit

Drug	Limit
Lumizyme (alglucosidase alfa) 50 mg vials	20 mg/kg every 2 weeks

Coding

The following codes for treatments and procedures applicable to this document are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

HCPCS

J0221	Injection, alglucosidase alfa, (Lumizyme), 10 mg
S9357	Home infusion therapy, enzyme replacement intravenous therapy, (e.g., Imiglucerase); administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment (drugs and nursing visits coded separately), per diem

ICD-10 Diagnosis

E74.02	Pompe disease

Document History

Reviewed: 09/14/2020
Document History:

- 08/01/2021 – Administrative update to add documentation.
- 09/14/2020 – Annual Review: No changes. Coding Reviewed: No changes.
- 09/23/2019 – Administrative update to add drug specific quantity limit.
- 09/09/2019 – Annual Review: No changes. Coding Reviewed: No changes.
- 08/17/2018 – Annual Review: No changes to criteria, added compendia references where applicable.

References

1. American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM). Pompe. Available at: https://www.aanem.org/Patients/Disorders/Pompe. Accessed on August 19, 2020.
2. American College of Medical Genetics (ACMG) Work Group on Management of Pompe Disease. Pompe disease diagnosis and management guideline. Genetics in Med. 2006; 8(5):267-288.
3. Clinical Pharmacology [database online]. Tampa, FL: Gold Standard, Inc.: 2020. URL: http://www.clinicalpharmacology.com. Updated periodically.
4. DailyMed. Package inserts. U.S. National Library of Medicine, National Institutes of Health website. http://dailymed.nlm.nih.gov/dailymed/about.cfm. Accessed: August 19, 2020.
5. DrugPoints® System [electronic version]. Truven Health Analytics, Greenwood Village, CO. Updated periodically.
6. Lexi-Comp ONLINE™ with AHFS™, Hudson, Ohio: Lexi-Comp, Inc.; 2020; Updated periodically.
7. Lumizyme [Package insert], Cambridge, MA. Genzyme Corporation; 2020.

Federal and state laws or requirements, contract language, and Plan utilization management programs or polices may take precedence over the application of this clinical criteria.