



# CIGNA PHARMACY COVERAGE POLICY

The following Coverage Policy applies to all plans administered by CIGNA Companies including plans administered by Great-West Healthcare, which is now a part of CIGNA.

**Subject Alglucosidase alfa (Myozyme<sup>®</sup>, Lumizyme<sup>®</sup>)**

**Effective Date ..... 1/15/2011**  
**Next Review Date ..... 1/15/2012**  
**Coverage Policy Number ..... 1008**

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## Hyperlink to Related Coverage Policies

### INSTRUCTIONS FOR USE

Coverage Policies are intended to provide guidance in interpreting certain **standard** CIGNA HealthCare benefit plans as well as benefit plans formerly administered by Great-West Healthcare. Please note, the terms of a participant's particular benefit plan document [Group Service Agreement (GSA), Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a participant's benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a participant's benefit plan document **always supercedes** the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable group benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. Proprietary information of CIGNA. Copyright ©2011 CIGNA

## Coverage Policy

**CIGNA covers alglucosidase alfa (Myozyme<sup>®</sup>, Lumizyme<sup>®</sup>) as medically necessary for Pompe disease (acid alpha-glucosidase (GAA) deficiency).**

**When coverage is available and medically necessary, the dosage, frequency, site of administration, and duration of therapy should be reasonable, clinically appropriate, and supported by evidence-based literature and adjusted based upon severity, alternative available treatments, and previous response to alglucosidase alfa (Myozyme<sup>®</sup>, Lumizyme<sup>®</sup>) therapy.**

## FDA Approved Indications

### Myozyme

Myozyme (alglucosidase alfa) is indicated for use in patients with Pompe disease (GAA deficiency). Myozyme has been shown to improve ventilator free survival in patients with infantile-onset Pompe disease as compared to an untreated historical control, whereas use of Myozyme in patients with other forms of Pompe disease has not been adequately studied to assure safety and efficacy.

### Lumizyme

Lumizyme (alglucosidase alfa) is a lysosomal glycogen-specific enzyme indicated for patients 8 years and older with late (non-infantile) onset Pompe disease (acid  $\alpha$ -glucosidase (GAA) deficiency) who do not have evidence of cardiac hypertrophy. The safety and efficacy of Lumizyme have not been evaluated in controlled clinical trials in infantile onset patients, or in late (non-infantile) onset patients less than 8 years of age.

## **FDA Recommended Dosing**

### **Myozyme**

The recommended dosage regimen of Myozyme is 20 mg/kg body weight administered every 2 weeks as an intravenous infusion. The total volume of infusion is determined by the patient's body weight and should be administered over approximately 4 hours.

### **Lumizyme**

The recommended dosage of Lumizyme is 20 mg/kg body weight administered every 2 weeks as an intravenous infusion.

## **Black Box Warning**

### **Myozyme/Lumizyme**

**Life-threatening anaphylactic reactions have been observed in some patients during Myozyme infusions. Therefore, appropriate medical support should be readily available when Myozyme is administered. Risk of Cardiorespiratory Failure - Patients with compromised cardiac or respiratory function may be at risk of serious acute exacerbation of their cardiac or respiratory compromise due to infusion reactions, and require additional monitoring.**

## **Drug Availability**

### **Myozyme/Lumizyme**

Myozyme 50 mg vials are supplied as a sterile, nonpyrogenic, white to off-white lyophilized cake or powder. Myozyme is supplied in single-use, clear Type I glass 20 mL (cc) vials.

## **General Background**

### **Disease Overview**

Pompe disease, also known as type II glycogen storage disease, is an inherited, autosomal recessive disorder caused by acid alpha-glucosidase (GAA) enzyme deficiency. GAA is the enzyme responsible for the degradation of glycogen in lysosomes. Patients with Pompe disease accumulate glycogen in lysosomes throughout the body, however accumulation is most pronounced in the skeletal muscle and cardiac tissue. Pompe disease affects approximately 1 in 14,000 to 1 in 300,000 individuals. Disease severity correlates with enzyme activity in the muscle and usually age at onset.

### **Guidelines**

The American College of Medical Genetics Pompe Disease Diagnosis and Management Guideline refers to Pompe disease as a continuum. Patients with infantile-onset disease present in the first year of life with symptoms of cardiomegaly, hypotonia, hepatomegaly, tongue hypertrophy, and difficulty with feeding. In the most severe form, these patients die before reaching 1 year. Late-onset disease includes patients who present with motor movement difficulty and weakness in the proximal muscle in childhood and adulthood. Respiratory failure is usually the cause of death in all patients with Pompe disease. In late-onset disease, a high protein diet has been beneficial. Alglucosidase alfa offers the first treatment for Pompe disease.

## **Myozyme**

### **Pharmacology**

Alglucosidase alfa replaces the deficient alpha-glucosidase enzyme and degrades glycogen in lysosomes. Pharmacokinetic data were collected from 19 patients age 1 month to 3.5 years with Pompe disease. The mean maximum concentration was 162 mcg/mL and mean steady state volume of distribution was 96 mL/kg. The average area under the curve was 811 mcg\*hour/mL. The mean clearance was 25 mL/hour/kg and mean half life was 2.3 hours.

### **Clinical Efficacy**

One historical cohort and 3 case series are available from the manufacturer. Approximately 83% of patients with infant-onset Pompe disease treated with alglucosidase alfa were alive and invasive ventilator-free at 18 months of age compared to 1.9% of patients in a historical control group. Alglucosidase alfa doses of 20 mg/kg every other week and 40 mg/kg every other week produced similar outcomes in patients with infant-onset Pompe disease. Alglucosidase alfa treatment improved motor function, cognitive function and cardiomyopathy in more than half of patients with infant-onset Pompe disease. Five out of 39 patients with infant-onset Pompe disease

died during the 52-week treatment period. Alglucosidase alfa treatment improved pulmonary and motor function in more than half patients in a case series including 5 patients with late-onset Pompe disease. Eighteen patients with late-onset Pompe disease received alglucosidase alfa through the expanded access program. Less than half of patients exhibited improvement in pulmonary and motor function, but the study authors stated that many patients had improved quality of life and weight gain. Almost all patients developed antibodies to alglucosidase alfa, but only 1 patient exhibited inhibitory antibody activity.

### Adverse Reactions

The most common adverse reactions are pyrexia, diarrhea, rash, vomiting, pneumonia, cough, otitis media, and upper respiratory tract infection. All patients experienced at least one adverse event. About half of patients taking alglucosidase alfa experienced infusion-related reactions. Most patients developed IgG antibodies to alglucosidase alfa in clinical trials.

## Lumizyme

### Pharmacology

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Treatment with alpha-glucosidase increased the PR interval and decreased the QT dispersion and left ventricular voltage in one study indicating improvement in cardiac disease. This may be a way to monitor response to alpha-glucosidase therapy, although electrocardiographic outcomes have not been reported with this alpha-glucosidase product.

### Adverse Drug Reactions

The most common adverse reactions are pyrexia, diarrhea, rash, vomiting, pneumonia, cough, otitis media, and upper respiratory tract infection. All patients experienced at least 1 adverse event. Alglucosidase alfa includes a black box warning on severe infusion reactions, including anaphylactic shock. About half of patients taking alglucosidase alfa (51%) experienced infusion-related reactions. Most patients (89%) developed IgG antibodies to alglucosidase alfa in clinical trials.

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## Coding/Billing Information

**Note:** This list of codes may not be all-inclusive.

**Covered when medically necessary:**

HCP Codes	Description
J0220	Injection, alglucosidase alfa, 10 mg

ICD-9-CM Diagnosis Codes	Description
271.0	Glycogenosis

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