

UTILIZATION MANAGEMENT MEDICAL POLICY

POLICY: Gaucher Disease – Enzyme Replacement Therapy – Cerezyme Utilization Management Medical Policy

- Cerezyme® (imiglucerase intravenous infusion – Genzyme)

REVIEW DATE: 04/01/2026

OVERVIEW

Cerezyme, an analogue of β -glucocerebrosidase, is indicated for the treatment non-central nervous system manifestations of **Type 1 or Type 3 Gaucher disease** in adults and pediatric patients.¹ The recommended dose is 2.5 units/kg three times per week to 60 units/kg once every 2 weeks administered intravenously.

Disease Overview

Gaucher disease is a rare autosomal recessive, inherited, lysosomal storage disorder caused by a deficiency of the lysosomal enzyme β -glucocerebrosidase.²⁻⁴ Glucocerebrosidase is responsible for the breakdown of glucosylcerebroside (GluCer) into glucose and ceramide. A deficiency of this enzyme is characterized by an excessive accumulation of GluCer in the visceral organs such as the liver, spleen, and bone marrow. GluCer remains stored within lysosomes causing enlarged lipid-laden macrophages called “Gaucher cells”.

Gaucher disease is classified into three phenotypes (Types 1 through 3).²⁻⁵ Type 1 is a non-neuronopathic variant with asymptomatic or symptomatic clinical manifestations of splenomegaly, hepatomegaly, anemia, thrombocytopenia, skeletal complications, and occasional lung involvement. Although historically Type 1 was characterized by the absence of neurological involvement, the prevalence of peripheral neuropathy in adults with Type 1 Gaucher disease has been reported to be higher than the general population.¹² In addition, evidence suggests that central nervous system involvement may also occur. The risk of Parkinson’s disease is increased in patients with Type 1 Gaucher disease and has a more aggressive course than in individuals without Gaucher disease. Further, patients with Type 1 disease may also have evidence of impaired cognitive function, sleep disturbance, hallucinations, apraxia, functional and structural eye abnormalities, and impaired sense of smell. Type 2 is an acute neuronopathic form characterized by an early onset (3 to 6 months of age) of rapidly progressive neurological disease with visceral manifestations; death generally occurs by the time patients reach 1 to 2 years of age. Type 3 is referred to as a chronic neuronopathic form and characterized by a later onset. Patients present with neurological, hematological, and visceral symptoms. Type 1 is most prevalent in the Western world, accounting for an estimated 94% of patients with Gaucher disease.^{2,6} Types 2 and 3 represent < 1% and 5% of patients, respectively, in Europe, North America, and Israel.^{2,5} The diagnosis of Gaucher disease is established by demonstrating deficient β -glucocerebrosidase activity in leukocytes or fibroblasts, or mutations in the glucocerebrosidase gene.^{7,8}

Guidelines

Treatment guidelines for Type 1 Gaucher disease (non-neuronopathic form) recommend initiating enzyme replacement therapy (ERT) in patients with significant and/or progressive disease.^{9,10} Additionally, ERT should be initiated immediately in all patients with Type 3 Gaucher disease (chronic neuronopathic form).¹¹ Guidelines note that there is no evidence that ERT has reversed, stabilized, or slowed the progression of neurological involvement. However, ERT ameliorates systemic involvement (skeletal deterioration, visceromegaly, hematological abnormalities) in non-neuronopathic as well as chronic neuronopathic disease, ultimately enhancing the quality of life.

POLICY STATEMENT

Prior Authorization is recommended for medical benefit coverage of Cerezyme. Approval is recommended for those who meet the **Criteria** and **Dosing** for the listed indications. 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 Cerezyme as well as the monitoring required for adverse events and long-term efficacy, approval requires Cerezyme to be prescribed by or in consultation with a physician who specializes in the condition being treated.

Automation: None.

RECOMMENDED AUTHORIZATION CRITERIA

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

FDA-Approved Indication

1. **Gaucher Disease – Type 1 or Type 3.** Approve for 1 year if the patient meets ALL of the following (A, B, and C):

Note: Type 1 Gaucher disease is also known as non-neuronopathic Gaucher disease. Type 3 Gaucher disease is also known as chronic neuronopathic Gaucher disease.

- A) The diagnosis is established by ONE of the following (i or ii):

- i. Demonstration of deficient β -glucocerebrosidase activity in leukocytes or fibroblasts; OR
- ii. Molecular genetic testing documenting biallelic pathogenic variants in the glucocerebrosidase (*GBA*) gene; AND

- B) The medication is not being used for the management of neurological manifestations; AND

Note: Examples of neurological manifestations may include abnormal ocular movement, auditory impairment, cognitive impairment, and seizures.

- C) 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. Each individual dose must not exceed 60 U/kg administered intravenously no more frequently than three times per week.

CONDITIONS NOT RECOMMENDED FOR APPROVAL

Coverage of Cerezyme is not recommended in the following situations:

1. **Concomitant Use with Other Approved Therapies for Gaucher Disease.** Concomitant use with other treatments approved for Gaucher disease has not been evaluated. Of note, examples of medications approved for Gaucher disease include Cerdelga (eliglustat capsules), Elelyso (taliglucerase alfa intravenous infusion), Vpriv (velaglucerase alfa intravenous infusion), and Zavesca (miglustat capsules).
2. 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. Cerezyme® intravenous infusion [prescribing information]. Cambridge, MA: Genzyme; January 2025.
2. Burrow TA, Barnes S, and Grabowski GA. Prevalence and management of Gaucher disease. *Pediatric Health Med Ther.* 2011;2:59-73.
3. Cox T. Gaucher disease: clinical profile and therapeutic development. *Biologics.* 2010;4:299-313.
4. Jmoudiak, M. and Futerman, AH. Gaucher disease: Pathological mechanisms and modern management. *Br J Haematol.* 2005;129(2):178–188.
5. Grabowski GA. Lysosomal storage disease 1- phenotype, diagnosis, and treatment of Gaucher's disease. *Lancet.* 2008;372:1263-1271.
6. Zimran A. How I treat Gaucher disease. *Blood.* 2011;118:1463-1471.
7. Stirnemann J, Belmatoug N, Camou F, et al. A review of Gaucher disease pathophysiology, clinical presentation and treatments. *Int J Mol Sci.* 2017;18:441.
8. Baris HN, Cohen IJ, Mistry PK. Gaucher disease: The metabolic defect, pathophysiology, phenotypes and natural history. *Pediatr Endocrinol Rev.* 2014;12:72-81.
9. Kishnani PS, Al-Hertani W, Balwani M, et al. Screening, patient identification, evaluation, and treatment in patients with Gaucher disease: Results from a Delphi consensus. *Mol Genet Metab.* 2022 Feb;135(2):154-162.
10. Kaplan P, Baris H, De Meirleir L, et al. Revised recommendations for the management of Gaucher disease in children. *Eur J Pediatr.* 2013 Apr;172(4):447-58.
11. Vellodi A, Tylki-Szymanska A, Davies EH, et al. Management of neuronopathic Gaucher disease: revised recommendations. *J Inherit Metab Dis.* 2009 Oct;32(5):660-664.
12. Weinreb NJ, Goker-Alpan O, Krishnani PS, et al. The diagnosis and management of Gaucher disease in pediatric patients: Where do we go from here? *Mol Genet Metab.* 2022;136:4-21.

HISTORY

Type of Revision	Summary of Changes	Review Date
Annual Revision	No criteria changes.	04/10/2024
Selected Revision	Gaucher Disease – Type 1: Added qualifier “Type 1” to the condition name and Note to indicate Type 1 disease is also referred to as non-neuronopathic disease. Added age ≥ 2 years as a condition of approval. For diagnosis established by genetic testing, genetic testing demonstrating a mutation in the glucocerebrosidase (<i>GBA</i>) gene was further specified to state a genetic test documenting biallelic pathogenic variants in the <i>GBA</i> gene. Gaucher Disease – Type 3: This new condition of approval was added under other uses with supportive evidence. Concomitant use with other approved therapies for Gaucher disease was added under conditions not recommended for approval.	07/17/2024
Annual Revision	No criteria changes.	04/02/2025
Selected Revision	Gaucher Disease – Type 1 or Type 3: Gaucher Disease Type 3 was added to this indication (previously, approved as Other Uses with Supportive Evidence). For Gaucher Disease – Type 1, a criterion was added to require the medication is not being used for the management of neurological manifestations; the requirement remains in place for Gaucher Disease Type 3. For Gaucher Disease – Type 3, the requirement that the medication is being used for the management of impaired growth, hepatologic, or visceral symptoms was removed. Dosing for Gaucher Disease Type 3 was revised such that each individual dose must not exceed 60 U/kg administered intravenously no more frequently than three times per week; previously, not to exceed 120 U/kg administered intravenously no more frequently than once every 2 weeks. For both Gaucher Disease – Type 1 and Type 3, the requirement that the patient is ≥ 2 years of age was removed. There is no longer an age criterion. Gaucher Disease – Type 3: This Other Use with Supportive Evidence was added to the FDA-approved indication. Refer to <i>Gaucher Disease – Type 1 or Type 3</i>.	02/11/2026
Annual Revision	No criteria changes.	04/01/2026