

Therapeutic Goals*

Bone Disease

Patients	Goal	Timeframe
All patients	<ul style="list-style-type: none"> ■ Lessen or eliminate bone pain ■ Prevent bone crises 	Years 1 to 2

For more information about bone disease, including

- osteonecrosis
- subchondral joint collapse
- skeletal mass
- cortical bone mineral density
- trabecular bone mineral density

please contact Genzyme Medical Information at 1-800-745-4447.

Anemia

Patients	Goal	Timeframe
Adult female patients and children	■ Hb \geq 11.0 g/dL	Years 1 to 2
Male patients >12 y	■ Hb \geq 12.0 g/dL	Years 1 to 2
All patients	<ul style="list-style-type: none"> ■ Eliminate blood transfusion dependency ■ Reduce fatigue ■ Maintain improved Hb levels 	

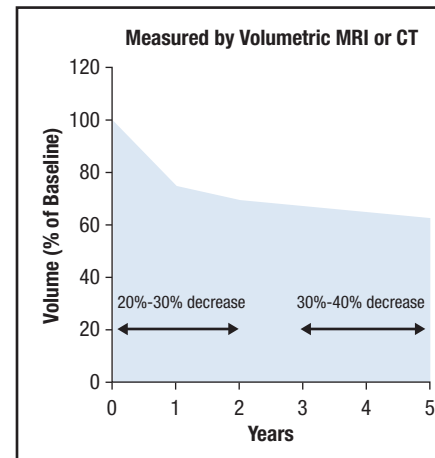
Thrombocytopenia

Patients	Goal	Timeframe
All patients	■ Sufficient platelets to reduce bleeding	Year 1
Splenectomized patients	■ Normalization of platelet counts	Year 1
Intact spleen		
Moderate thrombocytopenia [†]	■ Low-normal platelet counts	Year 2
Severe thrombocytopenia [‡]	■ Continued increases but no normalization	Year 2

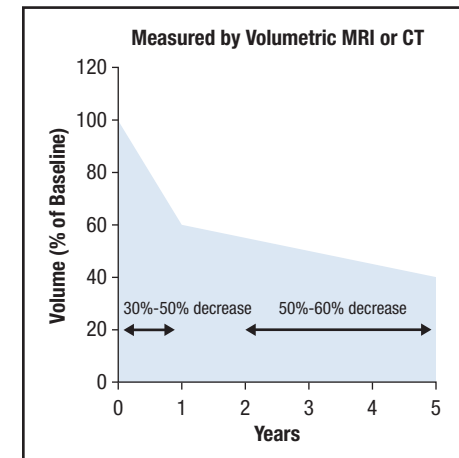
[†]>60,000-<120,000 mm³

[‡]<60,000 mm³

Hepatomegaly



Splenomegaly



Cerezyme® (imiglucerase for injection)

Indications and Usage

■ Cerezyme® is indicated for long-term enzyme replacement therapy (ERT) for pediatric and adult patients with a confirmed diagnosis of type 1 Gaucher disease that results in one or more of the following conditions:

- anemia
- thrombocytopenia
- bone disease
- hepatomegaly or splenomegaly

Important Safety Information

Adverse reactions related to Cerezyme® (imiglucerase for injection) administration have been reported in less than 15% of patients. Each of the following events occurred in less than 2% of the total patient population. Reported adverse events include nausea, vomiting, abdominal pain, diarrhea, rash, fatigue, headache, fever, dizziness, chills, backache, and tachycardia. Adverse events associated with the route of administration include discomfort, pruritus, burning, swelling or sterile abscess at the site of venipuncture. Symptoms suggestive of hypersensitivity include anaphylactoid reaction, pruritus, flushing, urticaria, angioedema, chest discomfort, dyspnea, coughing, cyanosis and hypotension. Approximately 15% of patients have developed IgG antibodies; periodic monitoring is suggested. Side effects should be reported promptly to Genzyme Medical Affairs at 800-745-4447, option 2. To learn more, please see full product information, contact Genzyme at 1-800-745-4447, or visit www.cerezyme.com.

For more information on therapeutic goals, please contact Genzyme Medical Information at 1-800-745-4447.

*Pastores GM, Weinreb NJ, Aerts H, et al. Therapeutic goals in the treatment of Gaucher disease. *Semin Hematol.* 2004;41(4 Suppl 5):4-14.

Minimum Recommendations for Monitoring Patients With Nonneuronopathic (Type 1) Gaucher Disease

Initial Assessment^{1,2}

Blood Tests		
PRIMARY TESTS	ADDITIONAL TESTS AS INDICATED ⁵	
Hemoglobin	AST and/or ALT	Albumin
Platelet count	Alkaline phosphatase	Total protein
Biochemical markers ³	Calcium	Serum immunoelectrophoresis
• Chitotriosidase	Phosphorus	Iron
• ACE	PT	Iron-binding capacity
• TRAP	PTT	Ferritin
Mutation analysis	WBC	Vitamin B ₁₂
Antibody sample ⁴	Total and direct bilirubin	
Visceral ⁶		
Spleen volume (volumetric MRI or CT)		
Liver volume (volumetric MRI or CT)		
Skeletal		
MRI (coronal; T ₁ - and T ₂ -weighted) of entire femora ⁷		
X-ray: AP view of entire femora ⁷ and lateral view of spine		
DEXA: lumbar spine and femoral neck		
Bone age (for patients aged ≤14 years) ⁵		
Pulmonary ⁸		
ECG, chest X-ray, and Doppler echocardiogram (right ventricular systolic pressure) for patients aged >18 years		
Quality of Life		
Patient-reported functional health and well-being (SF-36 Health Survey)		

Ongoing Monitoring²

	Patients Not on Enzyme Therapy	Patients on Enzyme Therapy				
		Not Achieved Therapeutic Goals		Achieved Therapeutic Goals	At Time of Dose Change or Significant Clinical Complication	
	Every 12 Mo	Every 12-24 Mo	Every 3 Mo	Every 12 Mo	Every 12-24 Mo	
Comprehensive physical examination	X		X	X	X (Annual)	
SF-36 (QoL) Survey	X		X	X	X (Annual)	X
Blood Tests						
Hemoglobin	X		X	X	X	X
Platelet count	X		X	X	X	X
Biochemical markers ³	X		X	X	X	X
• Chitotriosidase						
• ACE						
• TRAP						
Additional Blood Tests ⁵						
Visceral ⁶						
Spleen volume (Volumetric MRI or CT)		X	X	X	X	X
Liver volume (Volumetric MRI or CT)		X	X	X	X	X
Skeletal ⁹						
MRI of entire femora (Coronal; T ₁ - & T ₂ -weighted) ^{7,10}		X	X	X	X	X
X-ray ^{7,10}		X	X	X	X	X
DEXA		X	X	X	X	X
Pulmonary ⁸						

1. A complete patient and family history, preferably including a pedigree, should be conducted.
2. A comprehensive physical examination should be performed at least annually.
3. One or more of these biochemical markers should be consistently monitored at least every 12 months and in conjunction with other clinical assessments of disease activity and response to treatment. Of the three recommended markers, chitotriosidase, when available as a validated procedure from an experienced laboratory, may be the most sensitive indicator of changing disease activity, and is therefore preferred.
4. A baseline sample will be drawn and stored at Genzyme. A subsequent sample is suggested to be drawn at 6 months after starting Cerezyme® (imiglucerase for injection) but is optional. The baseline and additional samples will be tested only if clinically indicated, such as for a suspected immune-mediated adverse event, prior to a switch to home therapy, or for suspected loss of effectiveness of Cerezyme®.
5. These should be followed appropriately if abnormal based on each patient's age and clinical status.
6. Obtain contiguous transaxial 10 mm-thick sections for sum of region of interest.
7. AP view of the entire femora (optimally from hips to below knees), and lateral view of the spine.
8. Pulmonary assessments are recommended every 12-24 months for patients with borderline or above normal pulmonary pressures at baseline.
9. Anatomical sites not included here should be evaluated if symptoms develop in such locations.
10. Optional in absence of new symptoms or evidence of disease progression.

Abbreviations: ACE, angiotensin-converting enzyme; ALT, alanine aminotransferase; AP, anteroposterior; AST, aspartate aminotransferase; CT, computed tomography; DEXA, dual-energy X-ray absorptiometry; ECG, electrocardiogram; MRI, magnetic resonance imaging; PT, prothrombin time; PTT, partial thromboplastin time; TRAP, tartrate resistant acid phosphatase; WBC, white blood cell