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| **Section:** | Prescription Drugs | **Effective Date:** | April 1, 2021 |
| **Subsection:** | Respiratory Agents | **Original Policy Date:** | July 21, 2017 |
| **Subject:** | Alpha$_1$-Proteinase Inhibitors | **Page:** | 1 of 4 |

***Last Review Date:*** March 12, 2021

# Alpha$_1$-Proteinase Inhibitors

## Description

Aralast NP, Glassia, Prolastin-C, Zemaira

**Background**
Aralast NP, Glassia, Prolastin-C, and Zemaira are intravenous infusions indicated for individuals with clinically evident emphysema due to severe deficiency of Alpha$_1$-PI, also known as alpha$_1$-antitrypsin (AAT) deficiency. These medications increase antigenic and functional (anti-neutrophil elastase capacity, ANEC) serum levels and antigenic lung epithelial lining fluid levels of Alpha$_1$-PI. Intravenous administration of purified preparations of pooled donor-derived human AAT has been shown to augment levels of AAT and the AAT-related anti-elastase capacity of serum and lung epithelial lining fluid. The current U.S. Food and Drug Administration (FDA)-approved intravenous augmentation therapy dose for chronic administration is 60 mg/kg body weight, administered weekly (1-6).

**Regulatory Status**
FDA-approved indications: Aralast NP, Glassia, Prolastin-C, and Zemaira are indicated for chronic augmentation therapy in individuals with clinically evident emphysema due to severe congenital deficiency of alpha$_1$-PI (1-4).

The safety of Alpha$_1$-Proteinase Inhibitors in patients with severe renal impairment (creatinine clearance (CrCl) less than 30 mL/min) or end-stage renal disease has not been studied. The safety of Alpha$_1$-Proteinase Inhibitors in patients with moderate to severe hepatic impairment has not been studied (1-4).

Intravenous augmentation therapy is recommended for individuals with AATD and an FEV1 in the range of 30%-65% predicted (strong recommendation, high quality evidence) (6).

High value is placed on the potential to prolong survival in this group, the finding that intravenous augmentation therapy is associated with lower levels of elastin degradation products in individuals with AATD, and lower rates of loss of CT lung density in individuals with AATD-COPD receiving augmentation therapy. Low value is placed on the cost of this therapy (6).

The safety and effectiveness of Alpha$_1$-Proteinase Inhibitors in pediatric patients have not been established (1-4).

**Related policies**

## Policy

*This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.*

Aralast NP, Glassia, Prolastin-C, and Zemaira may be considered **medically necessary** in patients age 18 years or age or older in individuals with emphysema and if the conditions indicated below are met.

Aralast NP, Glassia, Prolastin-C, and Zemaira are considered **investigational** in patients less than 18 years of age and for all other indications.

## Prior-Approval Requirements

**Age** 18 years of age and older

**Diagnosis**

The patient must have the following:

1. Emphysema
   a. Clinically documented alpha$_1$ antitrypsin (AAT) deficiency with a pretreatment serum AAT level less than 11 µM/L (80 mg/dl by radial immunodiffusion or 50 mg/dl by nephelometry)
      b. Patient must **NOT** be a current smoker

c. Documented progressive emphysema with **ONE** of the following:
   i. Moderate airflow obstruction is evidenced by forced expiratory volume ($FEV_1$) of 30-65% of predicted value, prior to initiation of therapy
   ii. Individual has a rapid decline in lung function as measured by a change in $FEV_1$ greater than 120 ml/year

## Prior – Approval *Renewal* Requirements

**Age** 18 years of age and older

**Diagnosis**

The patient must have the following:

1. Emphysema
   a. Patient must **NOT** be a current smoker
   b. Clinical evidence of efficacy with **ONE** of the following:
      i. Elevation of AAT levels (above protective threshold)
      ii. Reduction in rate of deterioration of lung function with a reduction in $FEV_1$ rate of decline

## Policy Guidelines

## Pre - PA Allowance

None

## Prior - Approval Limits

**Duration** 3 months

## Prior – Approval *Renewal* Limits

**Duration** 12 months

## Rationale

**Summary**

Aralast NP, Glassia, Prolastin-C, and Zemaira are intravenous infusions indicated for individuals with clinically evident emphysema due to severe deficiency of Alpha$_1$-PI, also known as alpha$_1$-antitrypsin (AAT) deficiency. The safety of Alpha$_1$-Proteinase Inhibitors in patients with severe

renal impairment (creatinine clearance less than 30 mL/min), end-stage renal disease or moderate to severe hepatic impairment has not been studied. The safety and effectiveness of Alpha$_1$-Proteinase Inhibitors in pediatric patients have not been established (1-4).

Prior authorization is required to ensure the safe, clinically appropriate and cost-effective use of Aralast NP, Glassia, Prolastin-C, and Zemaira while maintaining optimal therapeutic outcomes.

**References**

1. Aralast NP [package insert]. Westlake Village, CA: Baxalta US Inc.; December 2018.
2. Glassia [package insert]. Westlake Village, CA: Baxalta US Inc.; June 2017.
3. Prolastin-C [package insert]. Research Triangle Park, NC: Grifols Therapeutics LLC; August 2018.
4. Zemaira [package insert].Kankakee, IL: CSL Behring LLC; April 2019.
5. Stoller JK, Rouhani F, Brantly M, et al. Biochemical efficacy and safety of a new pooled human plasma α1-antitrypsin, Respitin. CHEST. 2002;122:66-74.
6. Sandhaus R, Turino G, et al. The Diagnosis and Management of Alpha-1 Antitrypsin Deficiency in the Adult. Journal of the COPD Foundation. Volume 3 Number 3, 2016.

## Policy History

| Date | Action |
|---|---|
| July 2017 | Addition to PA |
| September 2017 | Annual review and reference update |
| March 2018 | Annual review and reference update |
| March 2019 | Annual review and reference update |
| March 2020 | Annual review and reference update |
| March 2021 | Annual review |

## Keywords

**This policy was approved by the FEP® Pharmacy and Medical Policy Committee on March 12, 2021 and is effective on April 1, 2021.**