**Medical Mutual**

**Alpha1-proteinase Inhibitor Prior Approval**

January 2017

Prolastin®-C (alpha1-proteinase inhibitor [human] lyophilized powder)
Aralast NP® (alpha1-proteinase inhibitor [human] lyophilized)
Zemaira™ (alpha1-proteinase inhibitor [human] lyophilized powder)
Glassia™ (alpha1-proteinase inhibitor [human] solution)

**OVERVIEW**

Alpha1-proteinase inhibitor (also known as alpha1-antitrypsin [AAT]), is indicated for use as a chronic replacement or augmentation therapy for individuals with a congenital deficiency of AAT with clinically demonstrable emphysema. In the scientific literature, the disorder is referred to as AAT deficiency whereas the deficiency or replacement protein is referred to as alpha1-proteinase inhibitor. Four products are available commercially in the US: Prolastin-C, Aralast NP, Zemaira, and Glassia. The products vary in their availability and in some of their purification and viral inactivation processes. Aralast NP was modified from Aralast, which was approved by the FDA in 2002. Aralast NP contains significantly less truncated C-terminal lysine (removal of LYS394) compared with Aralast (2% vs. 67%).

Studies have shown Aralast to have bioequivalence to Prolastin. In a study involving 28 patients with congenital alpha1-antitrypsin deficiency who were given both agents at a dose of 60 mg/kg intravenously (IV) once per week, similar effects in maintaining target serum AAT levels and increasing antigenic levels of AAT were achieved. Aralast NP is also derived from pooled human plasma and to reduce the risk of viral transmission, the manufacturing process utilizes treatment with a solvent detergent and nanofiltration. Zemaira was approved by the FDA in 2003 and is also prepared from pooled human plasma. Viral reduction steps used in the manufacturing process for Zemaira include pasteurization (60° C for 10 hours) and ultrafiltration.

A study of 44 patients with congenital AAT deficiency compared 60 mg/kg IV of Zemaira to the same dose of Prolastin once per week. No clinically significant differences were seen in serum AAT levels or antigenic AAT levels between the two treatments. Prolastin-C was approved in 2009. It has improved product purity and higher concentrations of alpha1-proteinase inhibitor when reconstituted, compared with Prolastin. Studies have shown Prolastin-C to be pharmacokinetically equivalent to Prolastin. Glassia, approved in 2010, is the only product available as a solution; it does not require reconstitution. Studies have shown Glassia to be similar to Prolastin.

**POLICY STATEMENT**

Prior authorization is recommended for prescription benefit coverage of an alpha1-proteinase inhibitor.

**RECOMMENDED AUTHORIZATION CRITERIA**

Coverage of Prolastin-C, Aralast NP, Zemaira, or Glassia is recommended in those who meet the following criteria:

**Food and Drug Administration (FDA)-Approved Indications**

1. **Alpha1-antitrypsin deficiency with emphysema (or COPD).** Approve in patients with baseline (pretreatment) AAT serum concentration < 80 mg/dL or 11 µM (11 µmol/L).
Other Uses with Supportive Evidence

2. **AAT deficiency-associated panniculitis.** Approve.

**Approval Duration**

Approval = 365 days (1 year)

**References**

- Zemaira™ [prescribing information]. Kankakee, IL: CSL Behring; August 2010.