SmartPA Criteria Proposal

Drug/Drug Class:	Growth Hormone Agents, Somatropin Edit
First Implementation Date:	December 5, 2007
Revised Date:	October 5, 2023
Prepared For:	MO HealthNet
Prepared By:	MO HealthNet/Conduent
Criteria Status:	☐ Existing Criteria ☒ Revision of Existing Criteria ☐ New Criteria

Executive Summary

Purpose: The MO HealthNet Pharmacy Program will implement a state-specific preferred drug list.

Why Issue Selected: Growth hormone-releasing hormone (GHRH), or somatocrinin, is primarily secreted by the arcuate nucleus of the hypothalamus and acts on the pituitary to stimulate the release of human growth hormone (hGH). hGH is then secreted and acts by binding to the hGH receptor which initiates the production of insulin-like growth-factor I (IGF-1). Growth hormone (GH), or somatotropin, was first FDA-approved in 1985 for the treatment of growth hormone deficiency. Over the past thirty-five years, indications for the use of exogenously-produced GH and GHRH have expanded to include conditions that affect not only children, but also adolescents and adults. Serostim® is used to increase lean body mass and body weight in HIV patients with wasting or cachexia, and Zorbtive® is indicated in adult patients diagnosed with short bowel syndrome. Growth hormone therapy is consistently among the highest amounts paid per member per month out of all therapeutic classes.

Total program savings for the PDL classes will be regularly reviewed.

Program-Specific Information:

Preferred Agents	Non-Preferred Agents
• Genotropin® • Genotropin MiniQuick® • Norditropin® FlexPro®	• Humatrope® • Nutropin AQ® NuSpin® • Omnitrope® • Saizen® • Serostim® • Skytrofa® • **Sogroya®** • Zomacton® • Zorbtive®

Type of Criteria:
☐ **Increased risk of ADE**
☒ **Appropriate Indications**
☒ **Preferred Drug List**
☐ **Clinical Edit**

Data Sources:
☐ **Only Administrative Databases**
☒ **Databases + Prescriber-Supplied**

Setting & Population

- Drug class for review: Growth Hormones, Somatropin Agents
- Age range: All appropriate MO HealthNet participants

Approval Criteria

- Prescribed by or in consultation with an infectious disease specialist, endocrinologist, nephrologist, or other appropriate specialist for the disease state **AND**
- Failure to achieve desired therapeutic outcomes with trial on 2 or more preferred agents as indicated:
  - Documented trial period for preferred agents
  - Documented ADE/ADR to preferred agents **AND**
- Participants ≥ 18 years of age:
  - Approvable diagnoses:
    - Growth hormone deficiency:
      - Low serum insulin-like growth factor I (IGF-I) defined as below -1 SDS **AND**
      - Failure of 1 GH stimulation test:
        - Insulin Tolerance Test (ITT) **OR**
        - GH Stimulation Panel (i.e., with arginine, glucagons, propranolol, or levodopa) **OR**
        - Equivalent Diagnostic Test (subject to clinical review) **OR**
      - Failure of 2 GH stimulation tests **OR**
    - Cardiomyopathy: clinical consultant review required **OR**
    - Short bowel syndrome: clinical consultant review required **OR**
    - HIV with wasting or cachexia:
      - Participant is currently receiving and compliant to antiretroviral therapy (90/120 days) **AND**
      - Documentation of unintentional weight loss of more than 5% body weight in the past 6 months **AND**
      - Documentation of baseline height and weight demonstrating a BMI < 20 g/m^2 **AND**
      - Adequate therapeutic trial (defined as at least 1 month of therapy) of dronabinol or megestrol acetate or documented contraindication/intolerance
- Participants < 18 years of age:
  - For diagnoses of genetic origin:
    - Documented diagnosis of one of the following:
      - Prader-Willi syndrome:
        - Confirmed with genetic testing **AND**
        - Documentation of baseline polysomnography **OR**
      - Turner Syndrome confirmed by chromosome analysis **OR**
      - Noonan syndrome confirmed with genetic testing **OR**
      - Short stature homeobox-containing gene (SHOX) deficiency confirmed with genetic testing **OR**
  - For diagnoses of non-genetic origin:
    - Documented diagnosis of one of the following:
      - Growth hormone deficiency:
        - Low serum insulin-like growth factor I (IGF-I) defined as below -1 SDS **AND**
        - Failure of 1 GH stimulation test:
          - Insulin Tolerance Test (ITT) **OR**
          - GH Stimulation Panel (i.e., with arginine, glucagons, propranolol, or levodopa) **OR**
          - Equivalent Diagnostic Test (subject to clinical review) **OR**
        - Failure of 2 GH stimulation tests **OR**
      - Children currently aged 2 - 4 years who were born small for gestational age: clinical consultant review **OR**

        - Chronic renal insufficiency/chronic kidney disease (CKD): lack of renal transplant in the past year **OR**
        - Idiopathic short stature with lack of other identifiable causes of subnormal growth (i.e., hypothyroidism, chronic illness, undernutrition, or genetic disorders): clinical consultant review **AND**
    - Growth failure defined as one of the following:
        - Height SDS more than **2.5** SDS below the mean for chronological age and sex **OR**
        - Height SDS between -2 and -3 below the mean for chronological age and sex **AND** growth velocity measured over 1 year below 25th percentile for age and sex **OR**
        - Growth velocity measured over 1 year -2 SDS below the mean for age and sex **AND**
    - Documented gender-specific delayed bone age **AND**
  - For Serostim: clinical consultant review required for use in pediatrics
- Initial approval is for 3 months, renewal of prior authorization may be up to 12 months with documentation of the following:
  - Documentation of current laboratory values (i.e., IGF-1, BMI) **AND**
  - Documentation of current bone age scan as necessary AND
  - Documentation of benefit of therapy as demonstrated by growth monitoring or improvement/ stabilization in BMI **AND**
  - Documentation of polysomnography as necessary

Denial Criteria

- Documentation of active malignancy (diagnosis or inferred with chemotherapy/radiation)
- Therapy will be denied if all approval criteria are not met
- Claim exceeds maximum dosing limitation for the following:

Drug Description	Generic Equivalent	Max Dosing Limitation
SEROSTIM 4 MG VIAL	SOMATROPIN	1 vial per day
SEROSTIM 5 MG VIAL	SOMATROPIN	1 vial per day
SEROSTIM 6 MG VIAL	SOMATROPIN	1 vial per day
ZORBTIVE 8.8 MG VIAL	SOMATROPIN	1 vial per day

Required Documentation

Laboratory Results:	X	Progress Notes:	
MedWatch Form:		Other:	X

Disposition of Edit

Denial: Exception Code “0160” (Preferred Drug List)
Rule Type: PDL

Default Approval Period

3 months

References

- Evidence-Based Medicine and Fiscal Analysis: “Therapeutic Class Review: Growth Hormones, Somatropin Agents”, Gainwell Technologies; Last updated April 30, 2023.
- Evidence-Based Medicine Analysis: “Growth Hormones and Growth Factors”, UMKC-DIC; February 2023.
- NCBI. “Guidelines for Growth Hormone and Insulin-Like Growth Factor-I Treatment in Children and Adolescents: Growth Hormone Deficiency, Idiopathic Short Stature, and Primary Insulin-Like Growth Factor-I Deficiency. https://www.ncbi.nlm.nih.gov/pubmed/27884013. Accessed 20 April 2020.
- Cook D., Rose S. A review of guidelines for use of growth hormone in pediatric and transition patients. *Pituitary,* 2012;15(3):301-10. doi: 10.1007/s11102-011-0372-6.
- Grimberg A., DiVall S., Polychronakos C., et al (2016). Guidelines for Growth Hormones and Insulin-like Growth Factor Treatment in Children and Adolescents: Growth Hormones Deficiency, Idiopathic Short Stature, and Primary Insulin-like Growth Factor-I Deficiency. *Hormone Research in Paediatrics*; 2016;86(6):361-397. doi: 10.1159/000452150.
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- Clinical Pharmacology [online]. Tampa (FL): Elsevier. 2023.