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## DRUG POLICY

# Growth Hormone

### NOTICE

This policy contains information which is clinical in nature. The policy is not medical advice. The information in this policy is used by Wellmark to make determinations whether medical treatment is covered under the terms of a Wellmark member's health benefit plan. Physicians and other health care providers are responsible for medical advice and treatment. If you have specific health care needs, you should consult an appropriate health care professional. If you would like to request an accessible version of this document, please contact customer service at 800-524-9242.

### BENEFIT APPLICATION

Benefit determinations are based on the applicable contract language in effect at the time the services were rendered. Exclusions, limitations or exceptions may apply. Benefits may vary based on contract, and individual member benefits must be verified. Wellmark determines medical necessity only if the benefit exists and no contract exclusions are applicable. This policy may not apply to FEP. Benefits are determined by the Federal Employee Program.

### DESCRIPTION

The intent of the Growth Hormone drug policy is to ensure appropriate selection of patients for therapy based on product labeling, clinical guidelines and clinical studies. The criteria will require the use of the health plan's preferred growth hormone Norditropin prior to the use of non-preferred growth hormones unless requesting Nutropin/Nutropin AQ and Humatrope for chronic kidney disease (CKD), and short stature homeobox-containing gene (SHOX) deficiency, respectively. Serostim and Zorbtive are excluded from preferred growth hormone requirement. Growth hormone therapy must be prescribed by or in consultation with a specialist (endocrinologist, geneticist, pediatric nephrologist, gastroenterologist/nutritional support specialist, or an infectious disease specialist) and the member must not have an active malignancy or history of malignancy in the past 12 months.

#### FDA-Approved Indications

- Pediatric patients with growth failure due to any of the following:
  - Growth hormone deficiency (GHD)
  - Turner syndrome
  - Noonan syndrome
  - Small for gestational age (SGA)
  - Prader-Willi syndrome
  - Chronic kidney disease (CKD)
  - Short stature homeobox-containing gene (SHOX) deficiency
  - Idiopathic short stature (ISS)
- Adults with childhood-onset or adult-onset GHD
- Short bowel syndrome (SBS)
- Human immunodeficiency virus (HIV)-associated wasting/cachexia

Growth Hormone	Generic Name	FDA Approved Indications
<b>Genotropin®</b>	somatropin	Pediatric GHD, adult GHD, TS, ISS, SGA, PWS
<b>Humatrope®</b>	somatropin	Pediatric GHD, adult GHD, TS, ISS, SGA, SHOXD
<b>Norditropin®</b>	somatropin	Pediatric GHD, adult GHD, TS, ISS, SGA, PWS, NS
<b>Nutropin/Nutropin AQ®</b>	somatropin	Pediatric GHD, adult GHD, TS, ISS, CKD
<b>Omnitrope®</b>	somatropin	Pediatric GHD, adult GHD, TS, ISS, SGA, PWS
<b>Saizen®</b>	somatropin	Pediatric GHD, adult GHD
<b>Serostim®</b>	somatropin	HIV-associated wasting/cachexia
<b>Zomacton®</b>	somatropin	Pediatric GHD, SGA, adult GHD, SHOXD, TS, ISS
<b>Zorbtive®</b>	somatropin	SBS

## POLICY

### REQUIRED DOCUMENTATION

The following information is necessary to initiate the prior authorization review for both initial and continuation of therapy requests (where applicable):

- Medical records supporting the diagnosis of neonatal GH deficiency
- Pretreatment growth hormone provocative test result(s) (laboratory report or medical record documentation)
- Pretreatment and/or current IGF-1 level (laboratory report or medical record documentation)\*
- The following laboratory test reports must be provided:
  - Diagnostic karyotype results in Turner syndrome
  - Diagnostic genetic test results in Prader-Willi syndrome
  - Diagnostic molecular or genetic test results in SHOX deficiency
- The following information must be provided for all continuation of therapy requests:
  - Total duration of treatment (approximate duration is acceptable)
  - Date of last dose administered
  - Approving health plan/pharmacy benefit manager
  - Date of prior authorization/approval
  - Prior authorization approval letter
- Body mass index (BMI) documentation may be required for review of adult growth hormone deficiency

\* IGF-1 levels vary based on the laboratory performing the analysis. Laboratory-specific values must be provided to determine whether the value is within the normal range.

### PRESCRIBER SPECIALTIES

For all diagnoses excluding HIV-associated wasting/cachexia, therapy must be prescribed by or in consultation with any of the following specialists:

- Endocrinologist
- Pediatric endocrinologist
- Geneticist

- Pediatric nephrologist (CKD only)
- Gastroenterologist/Nutritional support specialist (SBS only)

### INITIAL CRITERIA FOR APPROVAL

\* The criteria will require the use of the health plan's preferred growth hormone Norditropin prior to the use of non-preferred growth hormones unless requesting Nutropin/Nutropin AQ and Humatrope for chronic kidney disease (CKD), and short stature homeobox-containing gene (SHOX) deficiency, respectively. Serostim and Zorbtive are excluded from preferred growth hormone requirement.

- I. Growth hormone may be considered **medically necessary** for the treatment of pediatric growth hormone deficiency when the following criteria are met:
  - a. Patient is a neonate or was diagnosed with GH deficiency as a neonate. Medical records must be available to support the diagnosis of neonatal GH deficiency (e.g., hypoglycemia with random GH level, evidence of multiple pituitary hormone deficiency, chart notes, or magnetic resonance imaging [MRI] results).

### OR

- b. Patient meets ALL of the following:
  - i. Patient has EITHER:
    1. Two pretreatment pharmacologic provocative GH tests with both results demonstrating a peak GH level < 10 ng/mL, OR
    2. A documented pituitary or CNS disorder (refer to Appendix A) and a pretreatment IGF-1 level > 2 standard deviations (SD) below the mean.
  - ii. For patients < 2.5 years of age at initiation of treatment:
    1. Pretreatment height is > 2 SD below the mean and growth velocity is slow.
  - iii. For patients ≥ 2.5 years of age at initiation of treatment:
    1. Pretreatment height is > 2 SD below the mean and 1-year height velocity is >1 SD below the mean, OR
    2. Pretreatment 1-year height velocity is > 2 SD below the mean.
  - iv. Epiphyses are open.

**Approval is for 12 months.**

- II. Growth hormone may be considered **medically necessary** for the treatment of Turner Syndrome when ALL of the following criteria are met:
  - a. Diagnosis was confirmed by karyotyping.
  - b. Patient's pretreatment height is less than the 5<sup>th</sup> percentile for age
  - c. Epiphyses are open.

**Approval is for 12 months.**

- III. Growth hormone may be considered **medically necessary** for the treatment of Noonan Syndrome when ALL of the following criteria are met:
  - a. Pretreatment height is > 2 SD below the mean and 1-year height velocity is > 1 SD below the mean OR pretreatment 1-year height velocity is > 2 SD below the mean.
  - b. Epiphyses are open.

**Approval is for 12 months.**

- IV. Growth hormone may be considered **medically necessary** for the treatment of growth failure associated with chronic kidney disease when ALL of the following criteria are met:

- a. For patients < 2.5 years of age at initiation of treatment:
  - i. Pretreatment height is > 2 SD below the mean and growth velocity is slow.
- b. For patients ≥ 2.5 years of age at initiation of treatment
  - i. Pretreatment height is > 2 SD below the mean and 1-year height velocity is > 1 SD below the mean, OR
  - ii. Pretreatment 1-year height velocity is > 2 SD below the mean
- c. Epiphyses are open.

**Approval is for 12 months.**

- V. Growth hormone may be considered **medically necessary** for the treatment of short children born small for gestational age when ALL of the following criteria are met:
  - a. Patient meets at least one of the following:
    - i. Birth weight < 2500 g at gestational age > 37 weeks
    - ii. Birth weight or length less than 3<sup>rd</sup> percentile for gestational age
    - iii. Birth weight or length ≥ 2 SD below the mean for gestational age
  - b. Pretreatment age is ≥ 2 years.
  - c. Patient failed to manifest catch-up growth by age 2 (i.e. pretreatment height is > 2 SD below the mean).
  - d. Epiphyses are open.

**Approval is for 12 months.**

- VI. Growth hormone may be considered **medically necessary** for the treatment of Prader-Willi Syndrome when the following criteria are met:
  - a. The diagnosis of Prader-Willi syndrome was confirmed by genetic testing demonstrating any of the following:
    - i. Deletion in the chromosomal 15q11.2-q13 region
    - ii. Maternal uniparental disomy in chromosome 15
    - iii. Imprinting defects or translocations involving chromosome 15

**Approval is for 12 months.**

- VII. Growth hormone may be considered **medically necessary** for the treatment of Idiopathic Short Stature when ALL of the following criteria are met:
  - a. Pretreatment height is > 2.25 SD below the mean
  - b. Predicted adult height is < 5'3" for boys and < 4'11" for girls.
  - c. Pediatric growth hormone (GH) deficiency has been ruled out with a provocative GH test (peak GH level ≥ 10 ng/mL).
  - d. Epiphyses are open.

**Approval is for 12 months.**

- VIII. Growth hormone may be considered **medically necessary** for the treatment of Short Stature Homeobox-Containing Gene (SHOX) deficiency when ALL of the following criteria are met:
  - a. The diagnosis of SHOX deficiency was confirmed by molecular or genetic analyses
  - b. Pretreatment height is > 2 SD below the mean and 1-year height velocity is > 1 SD below the mean OR pretreatment 1-year height velocity is > 2 SD below the mean
  - c. Epiphyses are open.

**Approval is for 12 months.**

- IX. Growth hormone may be considered **medically necessary** for the treatment of adult growth hormone deficiency when ANY of the following criteria are met:
- a. The patient has had 2 pretreatment pharmacologic provocative GH tests and both results demonstrated GH levels < 5 ng/mL  
UNLESS
    - i. The agent is Macrilen, in which case a GH level of less than 2.8 ng/mL confirms the presence of adult growth hormone deficiencyOR
    - ii. The test used is the glucagon-stimulation test (GST), in which case a GH level of <3 ng/mL if body mass index (BMI) is less than or equal to 30 kg/m<sup>2</sup> and a GH level of <1 ng/mL if BMI is >30 kg/m<sup>2</sup> confirms the presence of adult growth hormone deficiency
  - b. The patient has had 1 pretreatment pharmacologic provocative GH test that demonstrated a GH level < 5 ng/mL AND has a pretreatment IGF-1 level that is low for age and gender  
UNLESS
    - i. The agent is Macrilen, in which case a GH level of less than 2.8 ng/mL confirms the presence of adult growth hormone deficiencyOR
    - ii. The test used is the glucagon-stimulation test (GST), in which case a GH level of <3 ng/mL if body mass index (BMI) is less than or equal to 30 kg/m<sup>2</sup> and a GH level of <1 ng/mL if BMI is >30 kg/m<sup>2</sup> confirms the presence of adult growth hormone deficiency
  - c. The patient has a documented structural abnormality of the hypothalamus or pituitary (refer to Appendix A) and ≥ 3 documented pituitary hormone deficiencies (refer to Appendix B).
  - d. The patient has childhood-onset GH deficiency and a documented congenital abnormality of the hypothalamus or pituitary (refer to Appendix A).

**Approval is for 12 months.**

- X. Growth hormone may be considered **medically necessary** for the treatment of HIV-Associated Wasting/Cachexia when ALL of the following criteria are met:
- a. Patient has tried and had a suboptimal response to alternative therapies (e.g., cyproheptadine, dronabinol, megestrol acetate or testosterone if hypogonadal) unless the member has a contraindication or intolerance to alternative therapies.
  - b. Member is currently on antiretroviral therapy.
  - c. Pretreatment BMI is < 18.5 kg/m<sup>2</sup> (see Appendix C).
  - d. Before initiating GH therapy, patient experienced unintentional weight loss > 5% of body weight in the previous 6 months.

**Approval is for 12 weeks.**

- XI. Growth hormone may be considered **medically necessary** for the treatment of Short Bowel Syndrome (SBS) when ALL of the following criteria are met:
- a. Must be prescribed by or in consultation with a gastroenterologist or nutritional support specialist
  - b. GH will be used in conjunction with optimal management of SBS.
  - c. Patient has not previously received GH therapy for more than 8 weeks.

**Approval is for 8 weeks.**

## CONTINUATION OF THERAPY

- I. The continuation of growth hormone therapy may be considered **medically necessary** for the treatment of pediatric growth hormone deficiency, Turner Syndrome, Noonan Syndrome, CKD, SGA, ISS, and SHOX deficiency when ALL of the following criteria are met:
  - i. Epiphyses are open (confirmed by X-ray or X-ray is not available).
  - ii. Patient's growth rate is > 2 cm/year unless there is documented clinical reason for lack of efficacy (e.g., on treatment less than 1 year, nearing adult final height/late stages of puberty).

**Approval** is for **12 months**.

- II. The continuation of growth hormone therapy may be considered **medically necessary** for the treatment of Prader-Willi Syndrome when ALL of the following criteria are met:
  - a. Body composition and psychomotor function have improved or stabilized in response to GH therapy.
  - b. For patients whose epiphyses are open:
    - i. Patient's growth rate is > 2 cm/year unless there is documented clinical reason for lack of efficacy (e.g., on treatment less than 1 year, nearing adult final height/late stages of puberty).
  - c. For patients whose epiphyses have closed:
    - i. Current IGF-1 level is not elevated for age and gender.

**Approval** is for **12 months**.

- III. The continuation of growth hormone therapy may be considered **medically necessary** for the treatment of adult growth hormone deficiency when all criteria for initial authorization are met (refer to Section IX. above).

- XII. The continuation of growth hormone therapy may be considered **medically necessary** for the treatment of HIV-Associated Wasting/Cachexia when ALL of the following criteria are met:
  - a. Patient has tried and had a suboptimal response to alternative therapies (e.g., cyproheptadine, dronabinol, megestrol acetate or testosterone if hypogonadal) unless the member has a contraindication or intolerance to alternative therapies.
  - b. Patient is currently on antiretroviral therapy.
  - c. BMI has improved or stabilized in response to GH therapy.
  - d. Current BMI is < 27 kg/m<sup>2</sup>.

**Approval** is for **12 weeks**.

Growth Hormone Therapy is considered **not medically necessary** for patients who do not meet the criteria set forth above.

## APPENDIX

### Appendix A: Examples of Hypothalamic/Pituitary/CNS Disorders

1. Congenital genetic abnormalities
  - a. Known mutations in growth-hormone-releasing hormone (GHRH) receptor, GH gene, GH receptor, or pituitary transcription factors
2. Congenital structural abnormalities
  - a. Optic nerve hypoplasia/septo-optic dysplasia
  - b. Agenesis of corpus callosum
  - c. Empty sella syndrome

- d. Ectopic posterior pituitary
  - e. Pituitary aplasia/hypoplasia
  - f. Pituitary stalk defect
  - g. Anencephaly or prosencephaly
  - h. Other mid-line defects
  - i. Vascular malformations
3. Acquired structural abnormalities (or causes of hypothalamic/pituitary damage)
    - a. CNS tumors/neoplasms (e.g., craniopharyngioma, glioma, pituitary adenoma)
    - b. Cysts (Rathke cleft cyst or arachnoid cleft cyst)
    - c. Surgery
    - d. Radiation
    - e. Chemotherapy
    - f. CNS infections
    - g. CNS infarction (e.g., Sheehan's syndrome)
    - h. Inflammatory lesions (e.g., autoimmune hypophysitis)
    - i. Infiltrative lesions (e.g., sarcoidosis, histiocytosis)
    - j. Head trauma/traumatic brain injury
    - k. Aneurysmal subarachnoid hemorrhage

#### Appendix B: Pituitary Hormones (Other than Growth Hormone)

1. Adrenocorticotrophic hormone (ACTH)
2. Antidiuretic hormone (ADH)
3. Follicle stimulating hormone (FSH)
4. Luteinizing hormone (LH)
5. Thyroid stimulating hormone (TSH)
6. Prolactin

#### Appendix C: Calculation of BMI

$$\text{BMI} = \frac{\text{Weight (pounds)} \times 703}{[\text{Height (inches)}]^2} \quad \text{OR} \quad \frac{\text{Weight (kg)}}{[\text{Height (m)}]^2}$$

BMI classification:	Underweight	< 18.5 kg/m <sup>2</sup>
	Normal weight	18.5 – 24.9 kg/m <sup>2</sup>
	Overweight	25 – 29.9 kg/m <sup>2</sup>
	Obesity (class 1)	30 – 34.9 kg/m <sup>2</sup>
	Obesity (class 2)	35 – 39.9 kg/m <sup>2</sup>
	Extreme obesity	≥ 40 kg/m <sup>2</sup>

#### PROCEDURES AND BILLING CODES

*To report provider services, use appropriate CPT\* codes, Alpha Numeric (HCPCS level 2) codes, Revenue codes, and/or ICD-CM diagnostic codes.*

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