| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

# Growth Hormones

| Override(s) | Approval Duration |
|---|---|
| Prior Authorization<br>Quantity Limit | **AIDS wasting/cachexia:** Three (3) Months<br><br>**Children with reconstructive indications:** 1 year for individuals 12 and younger; 6 months for individuals 13 and older<br><br>**Children with idiopathic growth hormone deficiency (GHD):** 1 year for all ages<br><br>**GH treatment in transitioning adolescents with childhood onset GH deficiency to adulthood:** 1 year<br><br>**GH deficiency in adults:** 1 year<br><br>**Other approvable conditions:** One (1) Year |

| Medications | Comments | Quantity Limit |
|---|---|---|
| Zomacton (somatropin) | Preferred | May be subject to quantity limit |
| Genotropin (somatropin) | Non-Preferred | |
| Humatrope (somatropin) | | |
| Norditropin (somatropin) | | |
| Nutropin AQ (somatropin) | | |
| Nutropin AQ NuSpin (somatropin) | | |
| Omnitrope (somatropin) | | |
| Saizen (somatropin) | | |
| Saizenprep (somatropin) | | |
| Serostim (somatropin) | | |
| Zorbtive (somatropin) | | |

******Note:*** ***Accretropin, Nutropin, Nutropin Depot, Protropin, Tev-Tropin, and Valtropin are no***

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

***longer manufactured*****

| FDA Approved Indications | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Drug** | **Indication** | | | | | | | | | | |
| | **Growth Hormone Deficiency** | | **Growth Failure due to Chronic Renal Insufficiency** | **Growth Failure in Children Born Small for Gestational Age** | **Prader-Willi Syndrome in Children** | **Turner's Syndrome** | **Cachexia AIDs-related** | **Noonan syndrome** | **Idiopathic short Stature** | **Short stature homeobox containing gene deficiency** | **Short Bowel Syndrome** |
| | **Children** | **Adult** | | | | | | | | | |
| Genotropin | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | |
| Humatrope | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | ✓ | |
| Norditropin | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | | |
| Nutropin AQ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | | |
| Nutropin AQ NuSpin | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | | |
| Saizen Saizenprep | ✓ | ✓ | | | | | | | | | |
| Omnitrope | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | |
| Serostim | | | | | | | ✓ | | | | |
| Zomacton (Preferred) | ✓ | ✓ | | ✓ | | ✓ | | | ✓ | ✓ | |
| Zorbtive | | | | | | | | | | | ✓ |

## APPROVAL CRITERIA

Requests (initial or continuation) for ALL Non-Preferred Growth Hormones require a trial of Zomacton
**OR**
Zomacton is not FDA-approved and do not have an accepted off-label use per the off-label policy for the prescribed indication and the requested non preferred agent is. Refer to the above matrix by drug and indication.

***Reconstructive therapies** are intended to address a significant variation from normal, related to **accidental injury, disease, trauma, treatment of a disease or congenital defect**, but do not result in significant functional impairment to the individual.
Growth hormone (GH) treatment is considered RECONSTRUCTIVE in nature for individuals who do not have growth hormone deficiency.

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

***NOTE:*** **Not all benefit contracts include benefits for reconstructive services. Benefit language supersedes this document.**

Initial requests for growth hormone (GH) **in children** may be approved if the following criteria are met: (GH Research Society 2000, Grimberg 2016):

I. Individual has a diagnosis of idiopathic growth hormone deficiency (GHD) as indicated by the following:
   A. Individual has signs or symptoms of (GHD) such as growth velocity 2 Standard Deviations (SD) below age-appropriate mean or height 2.25 SD below the age-appropriate mean;
   **AND**
   B. Individual has a subnormal response (less than10 ng/ml) to any **TWO** of the following standard growth hormone stimulation tests:
      1. Arginine;
      2. Clonidine;
      3. Glucagon;
      4. Insulin induced hypoglycemia;
      5. L-dopa-Propranolol;

**OR**

II. Individual has documented presence of at least two other pituitary hormone deficiencies, in addition to Insulin-like growth factor 1 (IGF-1) measurement below age-appropriate level; **OR**
III. Individual is a neonates with hypoglycemia and clinical and hormone evidence of hypopituitarism (growth hormone level less than 10 ng/ml); **OR**
IV. Individual has had cranial irradiation and have documented evidence of IGF-1 measurement below age-appropriate level with normal thyroid function tests results.

Initial requests for growth hormone (GH) therapy **for reconstructive* (see above note for reconstructive diagnosis) therapy in children** may be approved if the following criteria are met:

I. Individual meets either of the following requirements (Grimberg 2016):
   A. The child's height is at least 2.25 but less than 2.5 standard deviations below the mean for his or her age and gender *and* growth velocity is less than the 10$^{th}$ percentile over one year; **OR**

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

B. The child's height is at least 2.5 standard deviations below the mean for his or her age and gender, regardless of growth velocity;

**AND**

II. Individual has a condition known to be responsive to GH therapy, including but not limited to:
   A. Chronic renal insufficiency; **OR**
   B. Children with Prader-Willi syndrome who are not severely obese [body mass index (BMI) less than 35], and who do not meet the criteria described above in RN I. – IV. in the section labeled *Initial requests for growth hormone (GH)* ***in children***; **OR**
   C. Noonan syndrome; **OR**
   D. Turner syndrome; **OR**
   E. Children with Short Stature Homeobox (SHOX) gene; **OR**
   F. Children who are born small for gestational age defined as **all** of the following:
      1. Child was born small for gestational age (SGA), defined as birth weight or length 2 or more standard deviations below the mean for gestational age (infants with intrauterine growth restriction or Russell-Silver Syndrome resulting in SGA are included in this category); **AND**
      2. Child fails to manifest catch up growth before 4 years of age, defined as height 2 or more standard deviations below the mean for age and sex (Clayton, 2007); **AND**
      3. Other causes for short stature such as growth inhibiting medication, chronic disease, endocrine disorders, and emotional deprivation or syndromes (except for Russell-Silver syndrome) have been ruled out.

Continuation of therapy with GH therapy **in children** (**including** those who previously met criteria for GHD or reconstructive therapy) may be approved if the following criteria are met (if reconstructive, individual has not met the requirements for termination of GH therapy):

I. Individual is evaluated on an annual basis for all conditions; **AND**
II. Growth rate remains above 2.5 cm/year (does not apply to children with prior documented hypopituitarism) (Grimberg 2016); **AND**
III. For children over age 12, either of the following:
   A. An X-ray report with evidence that epiphyses have not yet closed (does not apply to children with prior documented hypopituitarism); **OR**
   B. A Sexual Maturity Rating (SMR, Tanner Stage) less than or equal to 3.

Treatment with growth hormone (GH) **for reconstructive therapy in children** should **no longer continue** if the following criteria are met:

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

I. Individual has bone age =16 years in males or = 14 years in females; **OR**
II. Individual has evidence of epiphyseal fusion; **OR**
III. "Mid-parental height" is achieved [NOTE: Mid-parental height = (father's height + mother's height) divided by 2, plus 2.5 inches (male) or minus 2.5 inches (female)].

Treatment with growth hormone (GH) in **transitioning adolescents with childhood onset GH deficiency (GHD) to adulthood** may be approved if the following criteria are met:

I. Individual has completed linear growth as defined by growth rate less than 2 cm per year; **AND**
II. One of the following:
   A. GH treatment has been stopped for at least one (1) month; **and** the diagnosis of GHD has been reconfirmed as follows:
      1. For individuals with idiopathic isolated GHD: A documented subnormal response** to **two** (2) standard GH stimulation tests, **or** subnormal response to **one** (1) provocative test **and** low IGF-I/IGFBP-3; **OR**
      2. For individuals with multiple pituitary hormone deficiencies, a documented subnormal response* to 1 provocative GH test and/or low IGF-1/IGFBP-3; **OR**
      3. For individuals who have had cranial irradiation, continued documentation of IGF-1 measurement below age-appropriate level with normal thyroid function test results;

      **Subnormal response is defined as serum GH concentration of less than 10 ng/mL. Acceptable stimulation tests include: insulin induced hypoglycemia, arginine, glucagon, clonidine, L-dopa-propranolol.

   **OR**

   B. Documented presence of any of the following conditions (GH stimulation tests are not required):
      1. A known genetic mutation associated with deficient growth hormone production or secretion; **OR**
      2. Hypothalamic-pituitary tumor or structural defect; **OR**
      3. At least three (3) other pituitary hormone deficiencies.

Treatment with GH **in adults** may be approved if the following criteria are met:

I. Individual has documented GHD, also known as somatropin deficiency syndrome, in childhood; **OR**

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

II. Individual has documented hypopituitarism as a result of pituitary disease, hypothalamic disease, surgery, radiation therapy, trauma or aneurismal subarachnoid hemorrhage (NOTE: Individuals being treated for GHD due to trauma or aneurysmal subarachnoid hemorrhage must have GHD reconfirmed at 12 months after the event); **AND**

III. GHD must be confirmed or reconfirmed by any of the following:
   A. A documented subnormal response in adults to **two** standard growth hormone stimulation tests (possible stimulation tests include, but are not limited to: insulin-induced hypoglycemia and combined arginine-growth hormone releasing hormone); defined as:
      1. Serum GH concentration of less than or equal to 5 ng/ml when using insulin induced hypoglycemia testing; **OR**
      2. Serum GH concentration of less than or equal to 4.1 ng/ml when using arginine;

   **OR**

   B. Subnormal response to **one** (1) stimulation test for adults with documented hypothalamic or pituitary disease *and* one or more additional pituitary hormone deficits;

   **OR**

   C. Documented presence of at least three other pituitary hormone deficiencies (that is, growth hormone stimulation tests are not required in this subgroup of individuals).

Treatment with GH in **other populations** may be approved if the following criteria are met:

I. Individual has AIDS wasting syndrome, defined as a greater than 10% of baseline weight loss that cannot be explained by a concurrent illness other than HIV infection; **AND**
II. Individual is simultaneously being treated with antiviral therapy; **AND**
III. Individual will continue treatment until the definition above is no longer met;

**OR**

IV. Individual has been diagnosed with short bowel syndrome; **AND**
V. Individual is receiving specialized nutritional support (may consist of a high-carbohydrate, low-fat diet adjusted for individual requirements) in conjunction with optimal management of short bowel syndrome.

Treatment with GH may **not** be approved for the following criteria:

I. Individual has a diagnosis of idiopathic short stature (ISS)**; OR**

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

II. Individual is a child who does not have signs or symptoms of idiopathic GHD (for example, reduced height or growth velocity), unless:
   A. Criteria for other pituitary hormone deficiencies are met; **OR**
   B. Criteria for hypoglycemia are met; **OR**
   C. Criteria for cranial irradiation are met. (Note: an individual who does not meet necessity criteria may meet reconstructive criteria); **OR**

III. Individual is an adult being treated for GHD due to trauma or aneurysmal subarachnoid hemorrhage and does not have re-testing confirmatory for growth hormone deficiency; **OR**

IV. Individual is using to treat conditions where applicable criteria have not been met, including, but not limited to, the following:
   A. After renal transplant; **OR**
   B. Anabolic therapy, except for AIDS, provided to counteract acute or chronic catabolic illness (e.g. surgery, trauma, cancer, chronic hemodialysis) producing catabolic (protein wasting) changes in both adults and children; **OR**
   C. Anabolic therapy to enhance body mass or strength for professional, recreational or social reasons; **OR**
   D. Constitutional delay of growth and development; **OR**
   E. Cystic Fibrosis; **OR**
   F. Growth hormone treatment in combination with GnRH agonist (Lupron) as a treatment of precocious puberty; **OR**
   G. Hypophosphatemic rickets; **OR**
   H. Osteogenesis imperfecta; **OR**
   I. Osteoporosis; **OR**
   J. Short stature associated with growth hormone insensitivity (Laron Syndrome); **OR**
   K. Therapy in older adults with normally occurring decrease in GH, who are not congenitally GH deficient and who have no evidence of organic pituitary disease (this is referred to as age-related GH deficiency); **OR**
   L. Treatment of congestive heart failure (CHF); **OR**
   M. Treatment of individuals with burns; **OR**
   N. Treatment of fibromyalgia; **OR**
   O. Treatment of glucocorticoid-induced growth failure; **OR**
   P. Treatment of HIV lipodystrophy (fat redistribution syndrome), also referred to as altered body habitus (e.g. buffalo hump), associated with antiviral therapy in individuals with HIV-infection; **OR**
   Q. Treatment of intrauterine growth restriction (IUGR) or Russell-Silver Syndrome that does not result in SGA; **OR**
   R. Treatment of obesity; **OR**
   S. Other etiologies of short stature where GH has not been shown to be associated with an increase in final height, including but not limited to achondrdoplasia and other skeletal dysplasias; **OR**

V. Individual is undergoing diagnostic testing requiring overnight hospitalization for spontaneous growth hormone secretion.

| Market Applicability | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Market** | **DC** | **GA** | **KY** | **MD** | **NJ** | **NY** | **WA** |
| **Applicable** | X | X | X | X | X | X | NA |

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