

Market Applicability														
Market	DC	FL & FHK	FL MMA	FL LTC	GA	KS	KY	MD	NJ	NV	NY	TN	TX	WA
Applicable	X	X	NA	NA	X	NA	X	X	X	X	X	NA	NA	NA

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Growth Hormones

DRUG.00009

Override(s)	Approval Duration
Prior Authorization Quantity Limit	Thirty (30) day exception for recently expired (within the past 45 days) growth hormone PAB AIDS wasting/cachexia: Three (3) Months Other approvable conditions: One (1) Year

Medications	Quantity Limit
Preferred Agents:	
Zomacton (somatropin)	Quantity limit of 28 injections per 28 days
Non-Preferred Agents:	
Genotropin (somatropin)	Quantity limit of 28 injections per 28 days
Humatrope (somatropin)	Quantity limit of 28 injections per 28 days
Norditropin (somatropin)	Quantity limit of 28 injections per 28 days
Nutropin AQ (somatropin)	Quantity limit of 28 injections per 28 days
Nutropin AQ NuSpin (somatropin)	Quantity limit of 28 injections per 28 days
Nutropin (somatropin)	Quantity limit of 28 injections per 28 days
Omnitrope (somatropin)	Quantity limit of 28 injections per 28 days
Saizen (somatropin)	Quantity limit of 28 injections per 28 days
Saizenprep (somatropin)	Quantity limit of 28 injections per 28 days
Serostim (somatropin)	Quantity limit of 28 injections per 28 days
Zorbtive (somatropin)	Quantity limit of 28 injections per 28 days

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

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FDA Approved Indications											
Drug	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	✓	✓	✓			✓			✓		
Nutropin AQ	✓	✓	✓			✓			✓		
Nutropin AQ NuSpin	✓	✓	✓			✓			✓		
Saizen	✓	✓									
Saizenprep	✓	✓									
Omnitrope	✓	✓		✓	✓	✓			✓		
Serostim							✓				
Zomacton (Preferred)	✓	✓		✓		✓			✓	✓	
Zorbtive											✓

APPROVAL CRITERIA

Requests 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:** In this document, procedures or drug therapies are considered reconstructive when intended to address a significant variation from normal, related to

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accidental injury, disease, trauma, treatment of a disease or congenital defect. **NOTE: Not all benefit contracts include benefits for reconstructive services as defined by this document. Benefit language supersedes this document.**

I. GROWTH HORMONE THERAPY IN CHILDREN AND ADOLESCENTS:

A. Children with Growth Hormone Deficiency:

Growth hormone (GH) replacement therapy may be approved for children with documentation demonstrating the presence of any one of the following conditions:

1. Idiopathic growth hormone deficiency (GHD) as indicated by BOTH a. and b. below:
 - a. The child has signs or symptoms of growth hormone deficiency such as growth velocity 2 SD below age-appropriate mean or height 2.25 SD below the age-appropriate mean; **AND**
 - b. A subnormal response (<10 ng/ml) to any TWO of the following standard growth hormone stimulation tests (arginine, clonidine, glucagons, insulin induced hypoglycemia, L-dopa-propranolol) **OR**
2. Neonates with hypoglycemia and clinical and hormone evidence of hypopituitarism (growth hormone level less than 10 ng/ml) **OR**
3. 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**
4. Children who have had cranial irradiation and have documented evidence of IGF-1 measurement below age-appropriate level with normal thyroid function tests results.

B. Reconstructive* (see above note for reconstructive diagnosis)

Growth hormone treatment is considered RECONSTRUCTIVE in nature for individuals who do not have growth hormone deficiency and may be approved if the patient meets both (1 and 2) the following criteria:

1. The child meets either of the following:
 - 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 10th percentile over one year; **OR**
 - 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**
2. The child has a condition known to be responsive to growth hormone therapy, including but not limited to:
 - a. Chronic renal insufficiency
 - b. Children with Prader-Willi syndrome who are not severely obese (BMI less than 35), and who do not meet the medically necessary criteria described above

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- c. Noonan syndrome
- d. Turner syndrome
- e. Children with Short Stature Homeobox (SHOX) gene
- f. Children who are born small for gestational age defined as ALL of the following:
 - i. Child was born small for gestational age, 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**
 - ii. 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; **AND**
 - iii. 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

C. Continuation of therapy

Continuation of GH therapy may be approved in children who previously met criteria for GHD or reconstructive treatment when the following are met (either medically necessary or reconstructive), and, if reconstructive, have not met the requirements for termination of GH therapy (Section D below):

1. Review of the medically necessary or reconstructive nature of GH therapy for treatment of growth failure in children should occur on an annual basis for all conditions; **AND**
2. A doubling of pre-treatment growth rate or an increase in pre-treatment growth rate of 3 cm/year or more seen in the first year of therapy; **AND**
3. For therapy continuing past the first year, growth rate remains above 2.5 cm/year (does not apply to children with prior documented hypopituitarism); **AND**
4. 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

D. Termination of therapy for reconstructive indications

GH therapy used for reconstruction should be terminated when any of the following criteria are met:

1. Bone age =16 years (male), or = 14 years (female) is reached; **OR**
2. Epiphyseal fusion has occurred; **OR**
3. "Mid-parental height" is achieved. Mid-parental height = (father's height + mother's height) divided by 2, plus 2.5 inches (male) or minus 2.5 inches (female).

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E. Transitioning adolescents with childhood onset GH deficiency (GHD) to treatment in adulthood who meet the following:

Growth hormone therapy may be approved for the treatment of adolescents and young adults with childhood onset GHD who have completed linear growth as defined by growth rate less than 2 cm per year and meets either of the following sets of criteria (#1 or #2 below):

1. GH treatment has been stopped for at least one (1) month; and the diagnosis of GHD has been reconfirmed as follows:
 - a. For individuals with idiopathic isolated GHD: A documented subnormal response* to 2 standard GH stimulation tests, OR subnormal response to 1 provocative test and low IGF-1/IGFBP-3; **OR**
 - b. For individuals with multiple pituitary hormone deficiencies, a documented subnormal response* to 1 provocative GH test and/or low IGF-1/IGFBP-3; **OR**
 - c. For individuals who have had cranial irradiation, continued documentation of IGF-1 measurement below age-appropriate level with normal thyroid function test results; **OR**

*Subnormal response is defined as serum GH concentration of <10 ng/mL. Acceptable stimulation tests include: insulin induced hypoglycemia, arginine, glucagons, clonidine, L-dopa, or propranolol.
2. Documented presence of any of the following conditions (growth hormone stimulation tests are not required):
 - a. A known genetic mutation associated with deficient growth hormone production or secretion; or
 - b. Hypothalamic-pituitary tumor or structural defect; or
 - c. At least three (3) other pituitary hormone deficiencies

II. GROWTH HORMONE THERAPY IN ADULTS

Growth hormone therapy may be approved for the treatment of adult growth hormone deficiency (GHD), also known as somatotropin deficiency syndrome, for individuals with any of the following conditions:

- A.** Documented GHD in childhood **OR**
- B.** Documented hypopituitarism as a result of pituitary disease, hypothalamic disease, surgery, radiation therapy, trauma or aneurismal subarachnoid hemorrhage.

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The diagnosis of GHD must be confirmed, or reconfirmed, by any of the following:

1. 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:
 - a. Serum GH concentration of ≤ 5 ng/ml when using insulin induced hypoglycemia testing; **OR**
 - b. Serum GH concentration of ≤ 4.1 ng/ml when using arginine; **OR**
2. Subnormal response to 1 stimulation test for adults with documented hypothalamic or pituitary disease *and* one or more additional pituitary hormone deficits; **OR**
3. Documented presence of at least three other pituitary hormone deficiencies (growth hormone stimulation tests are not required in this subgroup of individuals).

For individuals being treated for GHD due to trauma or aneurysmal subarachnoid hemorrhage, GHD must be reconfirmed at 12 months after the event for therapy to continue. If retesting is not confirmatory for growth hormone deficiency, continued treatment may not be approved. (Note: See confirmatory criteria above)

III. TREATMENT OF AIDS WASTING SYNDROME

Growth hormone may be approved for the treatment of individuals with 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. Treatment is continued until this definition is no longer met. Individuals treated with GH for AIDS wasting must simultaneously be treated with antiviral therapy

IV. SHORT BOWEL SYNDROME

Growth hormone supplementation may be approved for the treatment of short bowel syndrome in individuals receiving specialized nutritional support in conjunction with optimal management of short bowel syndrome. Specialized nutrition support may consist of a high-carbohydrate, low-fat diet adjusted for individual requirements.

V. Use of Growth Hormone to increase height in children with idiopathic short stature may not be approved.

Growth hormone therapy may not be approved for children who do not have signs or symptoms of idiopathic GHD (for example, reduced height or growth velocity), unless:

1. Criteria for other pituitary hormone deficiencies are met; **OR**
2. Criteria for hypoglycemia are met; **OR**
3. Criteria for cranial irradiation are met. (Note: an individual who does not meet medical necessity criteria may meet reconstructive criteria).

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Growth hormone replacement therapy may not be approved for children who no longer meet the continuation of growth hormone therapy criteria above.

VI. Use of Growth Hormone therapy when applicable criteria above have not been met may not be approved for, but not limited to, the following:

- A. After renal transplant
- 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
- C. Anabolic therapy to enhance body mass or strength for professional, recreational or social reasons
- D. Constitutional delay of growth and development
- E. Cystic Fibrosis
- F. Growth hormone treatment in combination with GnRH agonist (Lupron) as a treatment of precocious puberty
- G. Hypophosphatemic rickets
- H. Osteogenesis imperfecta
- I. Osteoporosis
- J. Short stature associated with growth hormone insensitivity (Laron Syndrome)
- 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)
- L. Treatment of congestive heart failure (CHF)
- M. Treatment of individuals with burns
- N. Treatment of fibromyalgia
- O. Treatment of glucocorticoid-induced growth failure
- 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
- Q. Treatment of intrauterine growth restriction (IUGR) or Russell-Silver Syndrome that does not result in SGA
- R. Treatment of obesity
- 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 achondroplasia and other skeletal dysplasias.

Note: Diagnostic testing requiring overnight hospitalization for spontaneous growth hormone secretion may not be approved in all cases and use of animal growth hormones may not be approved in all cases.

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Applicable	X	X	NA	NA	X	NA	X	X	X	X	X	NA	NA	NA

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State Specific Mandates		
State name	Date effective	Mandate details (including specific bill if applicable)
N/A	N/A	N/A

Key References:

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Lexi-Comp ONLINE™ with AHFS™, Hudson, Ohio: Lexi-Comp, Inc.; 2015; Updated periodically.

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