Recombinant Human Growth Hormone (rhGH)

[For the list of services and procedures that need preauthorization, please refer to www.mcs.com.pr Go to “Comunicados a Proveedores”, and click “Cartas Circulares”.

Medical Policy: MP-RX-11-09
Original Effective Date: July 9, 2009
Reviewed: July 9, 2009

This policy applies to products subscribed by the following corporations, MCS Life Insurance Company (Commercial), and MCS Advantage, Inc. (Classicare) and Medical Card System, Inc., provider’s contract; unless specific contract limitations, exclusions or exceptions apply. Please refer to the member’s benefit certification language for benefit availability. Managed care guidelines related to referral authorization, and precertification of inpatient hospitalization, home health, home infusion and hospice services apply subject to the aforementioned exceptions.

DESCRIPTION

Human growth hormone, also known as Somatotropin, is essential for normal growth and children maturation. This hormone has an important role in controlling metabolism, cardiac function and maintenance of corporal composition in adults. Growth hormone deficiency in children produces short stature and in severe cases delays skeletal maturation and lineal growth. Other conditions associated with growth hormone deficiency and short statures are chronic renal failure and Turner Syndrome. Growth hormone deficiency can be acquired as a result of anatomical abnormalities or pituitary tumors of pineal or hypothalamic regions. Usually, growth hormone deficiency in adults is secondary to pituitary disorders.

Endogenous growth hormone or Somatotropin is secreted by the anterior lobe of the pituitary gland in response to the liberator factor of the growth hormone. The growth hormone regulates, among other functions, cellular, lineal, skeletal and organs growth. Recombinant Human Growth Hormone or Somatropin produces the same side effects as the endogenous growth hormone Somatotropin.

Recombinant Human Growth Hormone (rhGH) is administered daily or several times during the week (6-7) in individualized dosage by subcutaneous or intramuscular via. The Food and Drug Administration indications varies product by product and according with the patient’s age.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate member certificate and subscriber agreement contract for applicable diagnostic imaging, DME, laboratory, machine tests, benefits and coverage.
INDICATIONS

Medical Card System, Inc. (MCS) will consider recombinant growth hormone medically necessary for treatment of members in the following diagnostic categories who meet the criteria set forth below:

A. **Adults:**
   1. Adult Members with hypothalamic - pituitary disease
   2. Pituitary tumor
   3. Damage secondary to pituitary surgery
   4. Hypothalamic disease
   5. Radiation
   6. Trauma (e.g. head trauma or central nervous system infection)
   7. Confirmed growth hormone deficiency for either childhood (secondary to congenital, genetic, acquired, or idiopathic causes) onset or adult onset (endogenous or associated with multiple hormone deficiencies, i.e., hypopituitarism, as a result of pituitary disease, surgery or radiation therapy)
   8. For the treatment of short bowel syndrome in patients receiving specialized nutrition support as directed by a health care professional.
   9. For the treatment of HIV-associated adipose redistribution syndrome (HARS) †.
   † = Off-label indication

B. **Children and Adolescents:**
   1. Children with history of hypothalamic - pituitary disease
   2. Short stature associated with chronic renal insufficiency previous renal transplant
   3. Short stature in patients with Turner Syndrome (TS)†
   4. Short stature in patients with Prader Willis Syndrome (PWS)‡
   5. Short Stature in patients with Noonan’s Syndrome§
   6. Infants born short for their gestational age (SGA) who have not reach their expected stature at two to four years of age or that presented the restriction diagnosis in the intrauterine growth (IUGR). GH or IGF-I levels are not needed for this diagnosis.
   7. Trauma (e.g. traumatic delivery in the neonate)
   8. For the long-term treatment of growth failure in children who have growth hormone deficiency due to inadequate growth hormone secretion.
   10. For idiopathic short stature.
   11. For the treatment of HIV-associated failure to thrive in children, AIDS-associated wasting syndrome, or cachexia.
CONTRAINDICATIONS/LIMITATIONS

Medical Card System, Inc. (MCS) DOES NOT cover Somatropin for the following indications because they are considered experimental, investigational or unproven (this list may not be all-inclusive):

A. **Growth Hormone Use in Adults:**
   1. Continuation of growth hormone treatment from childhood use once epiphyses are closed (except as defined in adult growth hormone coverage conditions)
   2. Obesity
   3. Osteoporosis
   4. Muscular dystrophy
   5. Infertility
   6. Somatopause
   7. Repeat courses of therapy in Short Bowel Syndrome
   8. Crohn’s disease

B. **Growth Hormone Use in Children:**
   1. Russell-Silver Syndrome
   2. Skeletal dysplasias, (i.e., acondroplastia)
   3. Osteogenesis imperfecta
   4. Down Syndrome and other syndromes associated with short stature and malignant diathesis
   5. Continuation of growth hormone treatment for growth promotion once epiphyses are closed
   6. Deletion of chromosome 18q
   7. Chromosomal anomalies unless otherwise specified as covered
   8. Precocious puberty
   9. Juvenile rheumatoid arthritis
   10. Crohn’s disease
   11. Repeat courses of therapy in Short Bowel Syndrome

C. **General Contraindications and Warnings:**
   1. Somatropin products should not be used in any patient with a known hypersensitivity to Somatropin or any of the product excipients.
   2. Hypersensitivity to benzyl alcohol.
   3. Hypersensitivity to metacresol.
   4. Patients with Active Neoplastic Disease.
5. Patients with acute critical illness due to complications following open heart or abdominal surgery, multiple accidental traumas or to patients having acute respiratory insufficiency.

6. Somatropin should be used cautiously in patients with diabetes mellitus. Patients with diabetes or glucose intolerance and those patients with risk factors for diabetes or glucose intolerance should be monitored closely during treatment with Somatropin.

7. Diabetic retinopathy, active proliferative or severe non-proliferative.

8. Patients with a history of scoliosis should receive Somatropin with caution.

9. Somatropin therapy has been reported to cause increased intracranial pressure with papilledema, visual changes, headache, and nausea and/or vomiting.

10. Underlying intracranial tumor, evidence of progression or recurrence.

11. Patients who develop persistent, severe abdominal pain during Somatropin treatment should be evaluated for pancreatitis, especially pediatric patients.

12. Somatropin is contraindicated for growth promotion in pediatric patients with epiphyseal closure.

13. Somatropin is contraindicated for use in pediatric patients with Prader-Willi syndrome and obesity as there have been reports of fatalities.

14. Hormone replacement therapy should be monitored closely when somatropin therapy is administered to patients with hypopituitarism (multiple hormone deficiencies).

15. Somatropin must be administered with caution during pregnancy and could affect the reproduction capacity.

16. Somatropin must be administered cautiously in breast feeding mothers; it is excreted into human breast milk.

17. During treatment with Somatropin, Turner’s syndrome patients should be evaluated carefully for Otitis and other ear disorders since these patients have an increased risk of ear or hearing disorders.

18. Dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy.

CODING INFORMATION

HCPCS CODES (List may not be all inclusive)

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<thead>
<tr>
<th>HCPCS® CODES</th>
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<tr>
<td>J2941</td>
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### ICD-9 CM® Diagnosis Codes (List may not be all inclusive)

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<tr>
<th>ICD-9 CM® CODES</th>
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<td>042</td>
<td>Human immunodeficiency virus (HIV) disease</td>
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<tr>
<td>194.3</td>
<td>Malignant neoplasm of other endocrine glands and related structures, pituitary gland and craniopharyngeal duct</td>
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<td>227.3</td>
<td>Benign neoplasm of other endocrine glands and related structures, pituitary gland and craniopharyngeal duct pouch</td>
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<td>253.2</td>
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<td>Other specified intestinal malabsorption</td>
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<td>Other specified anomalies, Prader-Willi syndrome</td>
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 REFERENCES


**POLICY HISTORY**

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<td>Origination of Policy</td>
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<tr>
<td>July 9, 2010</td>
<td>Revised</td>
<td>I. Under Indications: indication for children added “Short Stature patients with Noonan’s Syndrome”.</td>
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<td>II. New investigational/experimental section added to policy as stated</td>
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below: MCS does not cover Somatropin for the following indications because they are considered experimental, investigational or unproven (this list may not be all-inclusive):

A. Growth Hormone Use in Children:

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- Crohn’s disease
- Repeat courses of therapy in Short Bowel Syndrome

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- Obesity
- Osteoporosis
- Muscular dystrophy
- Infertility
- Somatopause
- Repeat courses of therapy in Short Bowel Syndrome
- Crohn’s disease

III. Endnote added with definitions on Turner’s syndrome, Prader-Willie and Noonan’s Syndrome.
July 6, 2011 | Yearly Review | References updated.
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August 7, 2012 | Revised | To the Adults’ Indications Section - modified Indication # 7: for either childhood (secondary to congenital, genetic, acquired, or idiopathic causes) onset or adult onset (endogenous or associated with multiple hormone deficiencies, i.e., hypopituitarism, as a result of pituitary disease, surgery or radiation therapy). Also, Added New Indications 8-10.

To the Children and Adolescents’ Indications Section – Added to Indication #6: two to four years as a valid age to evaluate gestational age in relation to size.

New Indications 8-11 were added.

New General Contraindications Section, # 1-11, was added.

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1 Turner’s syndrome is a chromosomal disorder occurring exclusively in girls with an absence or a defect in chromosome 45X. The disorder results in lack of sexual development at puberty, short stature, webbed neck and a variety of heart defects. Turner’s syndrome is diagnosed in approximately one in 2000 to 3000 live female births. The reason for short stature in nearly all girls with Turner’s syndrome is probably from an impaired response to GH rather than a deficiency of the hormone. Treatment with growth hormone, anabolic steroids and estrogen are required to improve physical and sexual development.

2 Prader-Willi syndrome affects multiple systems resulting in infantile hypotonia and failure to thrive, Hypogonadism, short stature, learning disabilities and hyperphagia beginning at one to three years of age that leads to obesity. Prader-Willi syndrome is rare, occurring in approximately one in 10,000 to 25,000 live births; approximately 17,000 to 22,000 children in the U.S. have Prader-Willi syndrome. Sixty percent of children (primarily boys) diagnosed with Prader-Willi syndrome have abnormal chromosomes; either a three to four million base-pair deletion of the paternal chromosome 15q11q13, or both fifteenth chromosomes are inherited from the mother.

3 Noonan syndrome is a genetic disorder that causes abnormal development of multiple parts of the body. It used to be called Turner-like syndrome because certain signs (webbing of neck and abnormally shaped chest) resembled those seen in Turner syndrome. Management focuses on controlling the disease’s symptoms and complications. Growth hormone may be used to treat short stature in some people who have Noonan syndrome.