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
Revised: July 14, 2016
Next Revision: July 2017

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
Recombinant Human Growth Hormone (Somatropin) is a protein that is manufactured to be nearly identical to the main form of the naturally occurring human growth hormone. This hormone can stimulate tissue growth, linear growth (height), and protein, carbohydrate, lipid, and mineral metabolism. It has approved indications in both the adult and pediatric populations (FDA, 2011). Several somatropin products are available, all with varying indications and dosages.

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 the use of Recombinant Human Growth Hormone (rhGH) as medically necessary, for the treatment of patients in the following diagnostic categories (i.e. Adults, & Children and Adolescents), for Both the Commercial and Classicare (Advantage) Lines of Business (LOB), who meet Any of the criteria set forth below:

A. Adults:

1. Confirmed Growth Hormone Deficiency (GHD) for Either:

   a. Childhood onset: secondary to Any of the following causes: the term Growth Hormone Deficiency.
      - Congenital; or
      - Genetic; or
• Acquired; or
• Idiopathic.

OR

b. **Adult onset:** Endogenous or associated with Any of the following:

• Results from pituitary or hypothalamic disease;
• Secondary causes of surgery;
• Secondary causes of trauma; or
• Secondary causes of radiation therapy.

2. For the treatment of short bowel syndrome in patients receiving specialized nutrition support as directed by a health care professional.

3. For the treatment of AIDS-associated wasting syndrome, or cachexia.

**B. Children and Adolescents:**

1. For growth failure associated with chronic renal failure up to the time of transplantation.
2. For short stature associated with Turner Syndrome (TS)\(^1\).
3. For growth failure due to Prader-Willi Syndrome (PWS)\(^{ii}\).
4. For short stature in children with Noonan’s Syndrome\(^{iii}\).
5. For the long-term treatment of growth failure in children born small for gestational age (SGA) who fail to manifest catch-up growth by age 2-4.
6. For the long-term treatment of growth failure in children who have growth hormone deficiency due to inadequate growth hormone secretion.
7. For short stature in children with SHOX (Short Stature Homeobox-Containing Gene) deficiency.
8. For idiopathic short stature.
CONTRAINDICATIONS

1. Somatropin products should not be used in any patient with a known hypersensitivity to somatropin or any of the product excipients or diluents, such as benzyl alcohol and metacresol.

2. In general, somatropin is contraindicated in the presence of active malignancy. Any preexisting malignancy should be inactive and its treatment complete prior to instituting therapy with somatropin. Discontinue if there is evidence of recurrent activity.

3. Patients with acute critical illness due to complications following open heart or abdominal surgery, multiple accidental traumas or to patients having acute respiratory insufficiency. The safety of continuing somatropin treatment in patients receiving replacement doses for approved indications who currently develop these illnesses has not been established.

4. Somatropin is contraindicated in patients with Proliferative or Severe Non-Proliferative Diabetic Retinopathy.

5. Progression or recurrence of any underlying intracranial lesion or actively growing intracranial tumor.

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

7. Somatropin is contraindicated in pediatric patients with Prader-Willi syndrome who are severely obese or have severe respiratory impairment, as there have been reports of fatalities.

WARNINGS/LIMITATIONS

1. 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.

2. Patients with a history of scoliosis should receive somatropin with caution.

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

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

5. Hormone replacement therapy should be monitored closely when somatropin therapy is administered to patients with hypopituitarism (multiple hormone deficiencies).
6. It is unknown whether somatropin can cause human fetal harm when administered during pregnancy or if the drug can affect reproduction capacity. There are no adequate and well-controlled studies in pregnant women.

7. It is not known if somatropin is excreted into human breast milk. Because many drugs are excreted in human milk, breast-feeding mothers should receive somatropin therapy with caution, and with close monitoring of mother and infant.

8. 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. In addition, patients with Turner’s syndrome should be monitored closely for cardiovascular disorders such as stroke, aortic aneurysm, and hypertension because these patients are also at risk for these conditions.

9. 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.

10. Safety and efficacy of somatropin in pediatric patients with short bowel syndrome have not been established.

11. Concomitant Antiretroviral Therapy: In vitro experimental systems have demonstrated the potential to potentiate HIV replication. HIV patients should be maintained on antiretroviral therapy for the duration of somatropin therapy.

12. Patients with a history of any neoplasm should be monitored carefully while on somatropin therapy for progression or recurrence of the tumor.

13. Fluid Retention (i.e., edema, arthralgia, carpal tunnel syndrome – especially in adults): May occur frequently. Reduce dose as necessary.

14. Hypothyroidism: May first become evident or worsen. Patients treated with somatropin should have periodic thyroid function tests and thyroid hormone replacement therapy should be initiated or appropriately adjusted when indicated.

15. Slipped Capital Femoral Epiphyses may occur more frequently in patients with endocrine disorders (including GHD and Turner syndrome) or in patients undergoing rapid growth. Evaluate children with the onset of a limp or hip/knee pain.
## CODING INFORMATION

### HCPCS® CODES (List may not be all inclusive)

<table>
<thead>
<tr>
<th>HCPCS® CODES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>J2941</td>
<td>Injection, Somatropin, 1mg</td>
</tr>
</tbody>
</table>


### ICD-10 Codes (List may not be all inclusive)

<table>
<thead>
<tr>
<th>ICD-10 CODES</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>B20</td>
<td>Human immunodeficiency virus [HIV] disease</td>
</tr>
<tr>
<td>C75.1</td>
<td>Malignant neoplasm of pituitary gland</td>
</tr>
<tr>
<td>C75.2</td>
<td>Malignant neoplasm of craniopharyngeal duct</td>
</tr>
<tr>
<td>D35.2</td>
<td>Benign neoplasm of pituitary gland</td>
</tr>
<tr>
<td>D35.3</td>
<td>Benign neoplasm of craniopharyngeal duct</td>
</tr>
<tr>
<td>E23.0</td>
<td>Hypopituitarism</td>
</tr>
<tr>
<td>E23.1</td>
<td>Drug-induced hypopituitarism</td>
</tr>
<tr>
<td>E34.3</td>
<td>Short stature due to endocrine disorder</td>
</tr>
<tr>
<td>E36.8</td>
<td>Other intraoperative complications of endocrine system</td>
</tr>
<tr>
<td>E78.71</td>
<td>Barth syndrome</td>
</tr>
<tr>
<td>E78.72</td>
<td>Smith-Lemli-Opitz syndrome</td>
</tr>
<tr>
<td>E89.3</td>
<td>Postprocedural hypopituitarism</td>
</tr>
<tr>
<td>K90.4</td>
<td>Malabsorption due to intolerance, not elsewhere classified</td>
</tr>
<tr>
<td>K90.89</td>
<td>Other intestinal malabsorption</td>
</tr>
<tr>
<td>K91.2</td>
<td>Postsurgical malabsorption, not elsewhere classified</td>
</tr>
<tr>
<td>L59.9</td>
<td>Disorder of the skin and subcutaneous tissue related to radiation, unspecified</td>
</tr>
<tr>
<td>L76.81</td>
<td>Other intraoperative complications of skin and subcutaneous tissue</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>L76.82</td>
<td>Other postprocedural complications of skin and subcutaneous tissue</td>
</tr>
<tr>
<td>N18.1</td>
<td>Chronic kidney disease, stage 1</td>
</tr>
<tr>
<td>N18.2</td>
<td>Chronic kidney disease, stage 2 (mild)</td>
</tr>
<tr>
<td>N18.3</td>
<td>Chronic kidney disease, stage 3 (moderate)</td>
</tr>
<tr>
<td>N18.4</td>
<td>Chronic kidney disease, stage 4 (severe)</td>
</tr>
<tr>
<td>N18.5</td>
<td>Chronic kidney disease, stage 5</td>
</tr>
<tr>
<td>N18.6</td>
<td>End stage renal disease</td>
</tr>
<tr>
<td>N18.9</td>
<td>Chronic kidney disease, unspecified</td>
</tr>
<tr>
<td>N25.0</td>
<td>Renal osteodystrophy</td>
</tr>
<tr>
<td>P05.9</td>
<td>Newborn affected by slow intrauterine growth, unspecified</td>
</tr>
<tr>
<td>Q87.1</td>
<td>Congenital malformation syndromes predominantly associated with short stature</td>
</tr>
<tr>
<td>Q87.2</td>
<td>Congenital malformation syndromes predominantly involving limbs</td>
</tr>
<tr>
<td>Q87.3</td>
<td>Congenital malformation syndromes involving early overgrowth</td>
</tr>
<tr>
<td>Q87.5</td>
<td>Other congenital malformation syndromes with other skeletal changes</td>
</tr>
<tr>
<td>Q87.81</td>
<td>Alport syndrome</td>
</tr>
<tr>
<td>Q87.89</td>
<td>Other specified congenital malformation syndromes, not elsewhere classified</td>
</tr>
<tr>
<td>Q89.8</td>
<td>Other specified congenital malformations</td>
</tr>
<tr>
<td>Q96.0</td>
<td>Karyotype 45, X</td>
</tr>
<tr>
<td>Q96.1</td>
<td>Karyotype 46, X iso (Xq)</td>
</tr>
<tr>
<td>Q96.2</td>
<td>Karyotype 46, X with abnormal sex chromosome, except iso (Xq)</td>
</tr>
<tr>
<td>Q96.3</td>
<td>Mosaicism, 45, X/46, XX or XY</td>
</tr>
<tr>
<td>Q96.4</td>
<td>Mosaicism, 45, X/other cell line(s) with abnormal sex chromosome</td>
</tr>
<tr>
<td>Q96.8</td>
<td>Other variants of Turner's syndrome</td>
</tr>
</tbody>
</table>
Clinical Medical Policy Department  
Clinical Affairs Division  

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q96.9</td>
<td>Turner's syndrome, unspecified</td>
</tr>
<tr>
<td>R62.52</td>
<td>Short stature (child)</td>
</tr>
<tr>
<td>R64</td>
<td>Cachexia</td>
</tr>
<tr>
<td>T66.XXXA</td>
<td>Radiation sickness, unspecified, initial encounter</td>
</tr>
<tr>
<td>T79.4XXA</td>
<td>Traumatic shock, initial encounter</td>
</tr>
<tr>
<td>T79.8XXA</td>
<td>Other early complications of trauma, initial encounter</td>
</tr>
<tr>
<td>T79.9XXA</td>
<td>Unspecified early complication of trauma, initial encounter</td>
</tr>
</tbody>
</table>

REFERENCES


URL address:
https://www.pedsendo.org/education_training/healthcare_providers/consensus_statements/assets/ChangesrGHprescribing_information_31408.pdf

http://www.genotropin.com/prescribing-information


http://www.karger.com/ProdukteDB/Katalogteile/isbn3_8055/_91/_94/endev18_04.pdf


POLICY HISTORY

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTION</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 9, 2009</td>
<td>Origination of Policy</td>
<td>References updated. I. Under Indications: indication for children added “Short Stature patients with Noonan’s Syndrome”. II. New investigational/experimental section added to policy as stated 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: • Russell-Silver Syndrome • Skeletal dysplasias, (i.e., acondroplastia) • Osteogenesis imperfecta • Down Syndrome and other syndromes associated with short stature and malignant diathesis • Continuation of growth hormone treatment for growth promotion once epiphyses are closed • Deletion of chromosome 18q • Chromosomal anomalies unless otherwise specified as covered • Precocious puberty • Juvenile rheumatoid arthritis • Crohn’s disease • Repeat courses of therapy in Short Bowel Syndrome B. Growth Hormone Use in Adults: • Continuation of growth hormone treatment from childhood use once epiphyses are closed (except as defined in adult growth hormone coverage conditions) • Obesity • Osteoporosis</td>
</tr>
<tr>
<td>July 9, 2010</td>
<td>Revised</td>
<td></td>
</tr>
</tbody>
</table>
- 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.

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.

July 6, 2011

Yearly Revision

August 7, 2012

Revised

References updated.

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, were added.

July 9, 2013

Yearly Revision

References updated.

General Contraindications and Warnings # 12-18 were added.

ICD-9 section was reviewed.

September 16, 2014

Revised

References updated. Added new references, numbers 1, 5-6, 8, 10-12, 14-18, 20, 22-26.

To the Description Section:
- Deleted: 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.

- Also deleted: 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.

- Added: Recombinant Human Growth Hormone (Somatropin) is a protein that is manufactured to be nearly identical to the main form of the naturally occurring human growth hormone. This hormone can stimulate tissue growth, linear growth (height), and protein, carbohydrate, lipid, and mineral metabolism. It has approved indications in both the adult and pediatric populations (FDA, 2011). Several somatropin products are available, all with varying indications and dosages, depending on product (Clinical Pharmacology, 2010).

To the Indications Section:

- Revised and modified Indications statement to read as it follows: Medical Card System, Inc. (MCS) will consider the use of Recombinant Human Growth Hormone (rhGH) as medically necessary, for the treatment of patients in the following diagnostic categories (i.e. Adults & Children and Adolescents), for Both the Commercial and Classicare (Advantage) Lines of Business (LOB), who meet Any of the criteria set forth below

- Restructured and reorganized the Adults’ Indications. Adults’ Indications now read as it follows:

  - Confirmed growth hormone deficiency for EITHER
    - Childhood onset: secondary to ANY of the following causes: Congenital; or Genetic; or Acquired; or Idiopathic.
    - OR
    - Adult onset: endogenous or associated with ANY of the following: Results from pituitary or hypothalamic disease; or Secondary causes of surgery; or Secondary causes of trauma; or Secondary causes of radiation therapy.

- For the treatment of short bowel syndrome in patients receiving specialized nutrition support as directed by a health care professional.

- For the treatment of AIDS-associated wasting syndrome, or cachexia.

- Deleted Adult Off-label Indication: For the treatment of HIV-associated Adipose Redistribution Syndrome (HARS).

- To Children & Adolescents’ Indications, deleted: Children with history of hypothalamic-pituitary disease.

- To Children & Adolescents’ Indications, deleted: Trauma (e.g. traumatic delivery in the neonate).

- Restructured, revised and modified the Children and Adolescents’ Indications Section. This section now reads as it follows (according to Clinical Pharmacology Compendium):

- For growth failure associated with chronic renal failure up to the time of transplantation.
| For short stature associated with Turner Syndrome (TS). |
| For growth failure due to Prader-Willis Syndrome (PWS). |
| For short Stature in children with Noonan’s Syndrome. |
| For the long-term treatment of growth failure in children born Small for Gestational Age (SGA) who fail to manifest catch-up growth by age 2—4. |
| For the long-term treatment of growth failure in children who have growth hormone deficiency due to inadequate growth hormone secretion. |
| For short stature in children with SHOX (Short Stature Homeobox-Containing Gene) deficiency. |
| For idiopathic short stature. |
| For the treatment of HIV-associated failure to thrive in children. |

To the Contraindications Section:
- Separated from the Experimental/Investigational/Unproven Coverage Section and from the Warnings/Limitations Section.
- To #4 added: Any pre-existing neoplastic disease, specifically intracranial lesions (including pituitary tumors) must be inactive, and chemotherapy and radiation therapy complete, prior to beginning somatropin therapy.
- To #5 added: The safety of continuing somatropin treatment in patients receiving replacement doses for approved indications who currently develop these illnesses has not been established.
- Revised & modified #6 to read as it follows: Somatropin is contraindicated in patients with Diabetic Retinopathy.
- To #7 deleted: Underlying intracranial tumor, evidence of progression or recurrence.
- To #7 added: Progression or recurrence of any underlying intracranial lesion or actively growing intracranial tumor.
- Revised & modified #9 to read as it follows: Somatropin is contraindicated for use in pediatric patients with Prader-Willi syndrome, respiratory insufficiency and obesity, as there have been reports of fatalities.
- Added #9’s 10: Somatropin is contraindicated in patients with Prader-Willi syndrome who are severely obese or have severe respiratory impairment.

To the Warnings/Limitations Section:
- To #6 deleted: Somatropin must be administered with caution during pregnancy and could affect the reproduction capacity.
- To #6 added: It is unknown whether somatropin can cause human fetal harm when administered during pregnancy or if the drug can affect reproduction capacity. There are no adequate and well-controlled studies in pregnant women.
- To #7 deleted: Somatropin must be administered cautiously in breast feeding mothers; it is excreted into human breast milk.
- To #7 added: It is not known if somatropin is excreted into human breast milk. Because many drugs are excreted in human milk, breast-feeding mothers should receive somatropin therapy with caution, and with close monitoring of mother and infant.
- To #8 added: In addition, patients with Turner’s syndrome should be monitored closely for cardiovascular disorders such as stroke, aortic aneurysm, and hypertension because these patients are also at risk for these conditions.
- Added #10: Safety and efficacy of Somatropin in pediatric patients with short bowel syndrome have not been established.
To the Experimental/Investigational/Unproven Coverage Section:
- Deleted entire section: both indications' category (i.e., for adults and for Children).
- Deleted Growth Hormone Use in Adults: Continuation of growth hormone treatment from childhood use once epiphyses are closed (except as defined in adult growth hormone coverage conditions); Obesity; Osteoporosis; Muscular dystrophy; Infertility; Somatopause; Repeat courses of therapy in Short Bowel Syndrome; & Crohn's disease.
- Deleted Growth Hormone Use in Children: Russell-Silver Syndrome; Skeletal dysplasias, (i.e., acondroplastia); Osteogenesis imperfect; Down Syndrome and other syndromes associated with short stature and malignant diathesis; Continuation of growth hormone treatment for growth promotion once epiphyses are closed; Deletion of chromosome 18q; Chromosomal anomalies unless otherwise specified as covered; Precocious puberty; Juvenile rheumatoid arthritis; Crohn's disease; & Repeat courses of therapy in Short Bowel Syndrome.

Revised & Modified contents of Footnotes i – iii to read as it follows:
- i- Turner syndrome is a chromosomal condition related to the X chromosome that alters development in females, though it is not usually inherited in families. Symptoms of Turner syndrome are short stature and non-functioning ovaries, which causes infertility. Some women may also have extra skin on the neck (webbed neck), puffiness or swelling (lymphedema) of the hands and feet, skeletal abnormalities, heart defects, high blood pressure, and kidney problems (MedicNet, 2014).
- ii- Prader-Willi syndrome (PWS) is the most common known genetic cause of life-threatening obesity in children. Although the cause is complex, it results from an abnormality on the 15th chromosome. It occurs in males and females equally and in all races. Other typical characteristics of Prader-Willi syndrome include low muscle tone, motor development delays, short stature (if not treated with growth hormone), and incomplete sexual development (PWSA, 2014)
- iii- Noonan syndrome is an autosomal dominant genetic disorder that may cause short stature, distinctive facial features and heart abnormalities. Aside from face and heart abnormalities, there may be associated bleeding abnormalities, scoliosis, infertility in males, lymphedema, and intellectual disability (MedicineNet, 2013).

To the Coding Information, added the following ICD-9-CM Codes: 586, 783.41 & 783.43.

November 23, 2015
Revised

To the coding section:
- Eliminate ICD-9 codes since they are no longer valid for diagnosis classification.
- Add new section of ICD-10 codes which are the valid diagnosis classification system since October 1, 2015.

July 14, 2016
Revised

References updated. Added #15. Deleted # 2, 7 & 19.

To the Description Section:
- Deleted “depending on the product” and citation "Clinical Pharmacology, 2010".

To the Indications Section:
- To bullet A. 1. Added abbreviation GHD.

To the Contraindications Section:
### To #1
- Added "or diluents, such as benzyl alcohol and metacresol.
- Deleted former #2 and #3 which were merged with #1. Deleted #4 and replaced with: In general, somatropin is contraindicated in the presence of active malignancy. Any preexisting malignancy should be inactive and its treatment complete prior to instituting therapy with somatropin. Discontinue if there is evidence of recurrent activity.
- To #4 added: “Proliferative or Severe Non-Proliferative” (types of) Diabetic Retinopathy.
- Deleted former #9.
- To former #10 added “pediatric” and "as there have been reports of fatalities.

### To the Warnings/Limitations Section:
- Added #11: Concomitant Antiretroviral Therapy: In vitro experimental systems have demonstrated the potential to potentiate HIV replication. HIV patients should be maintained on antiretroviral therapy for the duration of somatropin therapy.
- Added #12: Patients with a history of any neoplasm should be monitored carefully while on somatropin therapy for progression or recurrence of the tumor.
- Added #13: Fluid Retention (i.e., edema, arthralgia, carpal tunnel syndrome – especially in adults): May occur frequently. Reduce dose as necessary.
- Added #14: Hypothyroidism: May first become evident or worsen. Patients treated with somatropin should have periodic thyroid function tests and thyroid hormone replacement therapy should be initiated or appropriately adjusted when indicated.
- Added #15: Slipped Capital Femoral Epiphyses may occur more frequently in patients with endocrine disorders (including GHD and Turner syndrome) or in patients undergoing rapid growth. Evaluate children with the onset of a limp or hip/knee pain.

### To the Coding Section:
- Added ICD-10 code R62.52

---

1 Turner syndrome is a chromosomal condition related to the X chromosome that alters development in females, though it is not usually inherited in families. Symptoms of Turner syndrome are short stature and non-functioning ovaries, which causes infertility. Some women may also have extra skin on the neck (webbed neck), puffiness or swelling (lymphedema) of the hands and feet, skeletal abnormalities, heart defects, high blood pressure, and kidney problems (MedicineNet, 2016).

2 Prader-Willi syndrome (PWS) is the most common known genetic cause of life-threatening obesity in children. Although the cause is complex, it results from an abnormality on the 15th chromosome. It occurs in males and females equally and in all races. Other typical characteristics of Prader-Willi syndrome include low muscle tone, motor development delays, short stature (if not treated with growth hormone), and incomplete sexual development (PWSA, 2016).

3 Noonan syndrome is an autosomal dominant genetic disorder that may cause short stature, distinctive facial features and heart abnormalities. Aside from face and heart abnormalities, there may be associated bleeding abnormalities, scoliosis, infertility in males, lymphedema, and intellectual disability (MedicineNet, 2013).
This document is for informational purposes only. It is not an authorization, certification, explanation of benefits, or contract. Receipt of benefits is subject to satisfaction of all terms and conditions of coverage. Eligibility and benefit coverage are determined in accordance with the terms of the member’s plan in effect as of the date services are rendered. Medical Card System, Inc., (MCS) medical policies are developed with the assistance of medical professionals and are based upon a review of published and unpublished information including, but not limited to, current medical literature, guidelines published by public health and health research agencies, and community medical practices in the treatment and diagnosis of disease. Because medical practice, information, and technology are constantly changing, Medical Card System, Inc., (MCS) reserves the right to review and update its medical policies at its discretion. Medical Card System, Inc. (MCS) medical policies are intended to serve as a resource to the plan. They are not intended to limit the plan’s ability to interpret plan language as deemed appropriate. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment they choose to provide.