Human Growth Hormone – Adult Therapy

Description

Genotropin, Humatrope, Norditropin, Nutropin, Nutropin AQ, Omnitrope, Saizen

Background

Growth hormone deficiency (GHD) in adulthood, associated with hypothalamic-pituitary dysfunction is now widely accepted as a distinct clinical syndrome, and is linked to a substantial number of significant co-morbidities, many of which can be ameliorated with growth hormone replacement therapy. (1)

The FDA has approved growth hormone replacement for use in adult patients with growth hormone deficiency. Approved indications are for the treatment of adults with either adult onset or childhood onset GHD. With the exception of idiopathic adult onset GHD, GHD should be confirmed as due to pituitary disease from known causes, including pituitary tumor, pituitary surgical damage, hypothalamic disease, irradiation, trauma, or reconfirmed childhood GHD. Growth hormone should only be prescribed to patients with clinical features suggestive of adult GHD and biochemically proven evidence of adult GHD.(6)

The laboratory diagnosis of GHD in adults is determined by dynamic endocrine testing. Because growth hormone has a short half-life in blood (19 minutes), growth hormone levels frequently are undetectable in blood samples obtained at random from normal subjects. For this reason, a stimulation test is needed to confirm the diagnosis. American Association of Clinical Endocrinologists (AACE) does not recommend growth hormone stimulation testing in patients with three or more pituitary hormone deficiencies and low IGF1.(1)
The usefulness of growth hormone treatment in adults who have completed their structural growth derives from the role of growth hormone in the following processes: increasing bone density, increasing lean tissue, decreasing adipose tissue, bolstering cardiac contractility, improving mood and motivation and enhancing exercise capacity.\(^{(1)}\)

Growth hormone is used off-label for cosmetic, anti-aging and performance enhancing purposes. These indications are not approved by the FDA and are not a covered benefit under the Service Benefit Plan.

**Regulatory Status**

FDA approved indications: Human Growth Hormone is indicated for:
- Treatment of adult patients with either childhood-onset or adult-onset GH deficiency

**Related policies**
- Growth hormone - Pediatric
- Serostim
- Zorbtive

**Policy**

*This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.*

Human growth hormone may be considered **medically necessary** for patients over age 18 with growth hormone deficiency due to hypothalamic disease, pituitary disease, radiation therapy, surgery, trauma, or idiopathic adult onset deficiency that meets the standards of documentation listed below, and to promote wound healing in burn patients.

Human growth hormone is considered **investigational** in patients who are under 18 years of age, who do not have documented growth hormone deficiency as outlined below, and who do not require growth hormone for the treatment of burn wounds.

**Prior-Approval Requirements**

**Age**
- 18 years of age or older

**Diagnoses**

For **INITIATION** of therapy the patient must have either (A) or (B):

A. Growth Hormone Deficiency due to **ONE** of the following:
   - 1. Hypothalamic disease
2. Pituitary disease
3. Radiation therapy
4. Surgery
5. Trauma
6. Idiopathic adult-onset growth hormone deficiency

AND ONE of the following:

1. Documentation of GH stimulation test result from ONE of the following:
   a. Insulin tolerance test peak GH <= 5 ng/ml
   b. Arginine/GHRH peak GH <= 4 ng/ml
   c. Glucagon, peak GH <=3 ng/ml
   d. Arginine/L-Dopa, peak GH <= 1.5 ng/ml
   e. Arginine peak GH <= 0.4 ng/ml

OR

2. Documentation of an IGF-I level < 84ug/L

AND

Documented deficiency of three pituitary hormones
Pituitary hormones include:
(a) Gonadotropin (LH and/or FSH)
(b) Adrenocorticotropic hormone (ACTH)
(c) Thyroid-stimulating hormone (TSH)
(d) Arginine vasopressin (AVP)

AND the following:

Confirmation that GH is not being used for cosmetic, anti-aging or athletic performance enhancement

B. Burn wounds (used for promotion of wound healing in burn patients)

All requests are subject to approval by a secondary review by a clinical specialist for final coverage determination

Prior – Approval Renewal Requirements

For CONTINUATION of therapy the patient must have ONE of the following:
A. Growth Hormone Deficiency due to ONE of the following:
   1. Hypothalamic disease
   2. Pituitary disease
   3. Radiation therapy
   4. Surgery
   5. Trauma
   6. Idiopathic adult-onset growth hormone deficiency

   AND the following:

   Confirmation that GH is not being used for cosmetic, anti-aging or athletic performance enhancement

B. Burn wounds (used for promotion of wound healing in burn patients)

Policy Guidelines

Pre - PA Allowance
None

Prior - Approval Limits
Duration 12 months

Prior – Approval Renewal Limits
Same as above

Rationale

Growth hormone deficiency (GHD) in adulthood, associated with hypothalamic-pituitary dysfunction is now widely accepted as a distinct clinical syndrome, and is linked to a substantial number of significant co-morbidities, many of which can be ameliorated with growth hormone replacement therapy. The FDA has approved growth hormone replacement for use in adult patients with growth hormone deficiency.

Growth hormone is used off-label for cosmetic, anti-aging and performance enhancing purposes. These indications are not approved by the FDA and are not a covered benefit under the Service Benefit Plan.
Prior approval is required to ensure the safe, clinically appropriate and cost effective use of human growth hormone while maintaining optimal therapeutic outcomes.

References


Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/8/2008</td>
<td>Criteria modified to include requirement of stimulation test result of peak GH &lt;= 5ng/ml.</td>
</tr>
<tr>
<td>4/9/2008</td>
<td>Removed the GH stimulation test requirement for a renewal PA.</td>
</tr>
<tr>
<td>5/9/2008</td>
<td>Changed minimum age requirement to 18. Added negative GH stimulation test requirement for PA renewals and confirmation that it is not being used for cosmetic, anti-aging or athletic performance enhancement.</td>
</tr>
<tr>
<td>5/13/2009</td>
<td>AACE does not recommend GH stimulation testing in patients with three or more pituitary hormone deficiencies or when the IGF1 is low. 1 Studies in patients with panhypopituitarism support this position that in patients with three or more pituitary hormone deficiencies GH stimulation testing is not necessary. 2, 3, 4 Patients with serum IGF-I less than 84 ug/L do not require GH stimulation testing for the diagnosis of</td>
</tr>
</tbody>
</table>
adult GHD.\(^4\)

9/2/2009
Revised to clarify that low IGF-1 (level < 84 ug/ml) establishes growth hormone deficiency in combination with three pituitary hormone deficiencies (2-4). This corrects 5/13/2009 notation—AACE does not recommend GH stimulation testing in patients with three or more pituitary hormone deficiencies and low IGF1, (rather than three or more pituitary hormone deficiencies or low IGF-1).\(^1\)

August 2010
Removal of Geref; discontinued by the manufacturer. Revised to add specific Growth Hormone stimulation test and approvable levels for each based on American Association of Clinical Endocrinologists (AACE) and Endocrine Society Clinical Practice Guidelines.\(^5,6\) Inclusion statement to reflect the growth hormone review process and separate initiation of therapy and continuation of therapy criteria. Adding a continuation criterion prevents exclusion of members with previous growth hormone approval from having the new GH stimulation test requirements. There are approximately 518 members with continuous GH approvals from 2009. It would not be clinically appropriate to apply new criteria to these members, resulting in a large number of these members being denied coverage. Furthermore, many of these members have been on GH therapy long enough that medical records with the test results from the initial diagnosis being archived or are no longer available. Clinical guidelines to re-establish GH deficiency by GH stimulation testing require the member to stop GH therapy for 1 month and be re-tested.\(^5,6\) This requirement would not be clinically appropriate for members who have been on continuous therapy for years. All requests that met criteria (initiation or continuation) will continue to go through the secondary review by a clinical specialist to prevent misuse and abuse.

September 2012
Annual editorial and reference update.

December 2012
Annual editorial and reference update.

September 2013
Annual editorial and reference update.

**Keywords**

This policy was approved by the FEP® Pharmacy and Therapeutics Committee on September 19, 2013 and is effective October 1, 2013.

*Signature on File*