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## Prior Authorization Criteria Update: Growth Hormones

### PLAIN LANGUAGE SUMMARY:

- This review was written because the Health Evidence Review Commission (HERC) recently made changes to allow the Oregon Health Plan (OHP) to fund limited coverage of human growth hormone (HGH) for adults and to support a case-by-case review for HGH treatment in children and young adults.
  - HGH is used as a medicine in people that do not make enough in their own body naturally. HGH is approved by the Food and Drug Administration to treat specific medical conditions that affect a person's ability to grow and develop. HGH is also a medication that may be illegally used to improve athletic performance or in body building. HGH should be prescribed by a doctor with special training for treating children and adults with a medical need for growth hormone.
  - HGH treatment may be covered by OHP when it is medically necessary. Providers must submit documentation to support use before OHP Open Card will pay for this medicine through a process called prior authorization.
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### Purpose of Update:

The purpose of this prior authorization (PA) update is to align fee-for-service PA criteria with new Health Evidence Review Commission (HERC) guidance for use of human growth hormones (HGH) and their FDA-approved indications. HGH is supplied in several formulations for the treatment of a limited number of pediatric and adult conditions (see **Appendix 1 - table 1**). HERC recently updated its guidance to allow limited coverage of HGH for adults and allow individualized review for HGH needs for children.<sup>1</sup>

Prior to the update, guideline note 74 restricted use of growth hormone (HGH) to children until they achieved “adult height as determined by bone age.”<sup>2</sup> As a result, some FDA-approved indications related to pediatric-onset endocrine or developmental syndromes were not covered by the Oregon Health Plan (OHP) once adult bone age was achieved.<sup>1</sup> HERC has authorized use of GH to treat diagnoses with medical evidence of effectiveness and safety such as for the treatment of panhypopituitarism, iatrogenic, and other pituitary disorders (Line 40), and pituitary dwarfism (Line 386).<sup>1</sup> HERC guidance specified that treatment of children and adolescents with growth hormone (for any indication) must be evaluated for medical appropriateness and medical necessity on a case-by-case basis.<sup>1</sup> HGH therapy for children and adolescents must be initiated by and continued in consultation with a pediatric endocrinologist.<sup>1</sup>

Guideline note 74 also specified the conditions under which hypopituitarism (E23.0) was considered above or below the funding line.<sup>1</sup> Prior to the update, treatment for isolated deficiency of human growth hormone in adults was not covered.<sup>2</sup> Beginning in January 2023, HGH treatment may be covered for adults with hypopituitarism under the following circumstances:

1) HGH must be prescribed by or in consultation with an endocrinologist AND

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2) Either of the following:

- a) Growth hormone deficiency is confirmed by a negative response to a growth hormone stimulation test (e.g., serum GH levels of <5 ng/ml on stimulation testing with either of the following: glucagon or insulin); OR
- b) Patient has had the pituitary removed or destroyed or has had panhypopituitarism since birth; AND

3) The prescriber certifies that the growth hormone is not being prescribed for anti-aging therapy or to enhance athletic ability or body building

If these conditions do not apply, then the adult HGH deficiency falls on Line 652 and would not be covered by OHP. However, funded conditions such as HIV associated with cachexia and short bowel syndrome are still covered for adults by FDA-approved GH agents.<sup>1</sup>

The growth hormone class was last reviewed in December 2021. An updated literature search did not identify any new literature that qualified for inclusion. Previous reviews have reported that somatropin (i.e., Growth Hormone, GH) is recommended as treatment option for children with growth failure associated with growth hormone deficiency (GHD), Turner syndrome, Prader-Willi syndrome, chronic renal insufficiency, and those born small for gestational age with subsequent growth failure at four years of age or later, and short stature homeobox-containing gene deficiency.<sup>3-14</sup> High-quality guidelines identified from previous reviews have recommended that GH be initiated and monitored by a pediatrician with specialist expertise in managing growth hormone disorders in children and that the choice of brand name product should be made on an individual basis after consideration of likelihood of adherence to treatment and cost.<sup>13-15</sup> In addition, it was reported that the treatment of somatropin should be discontinued if growth velocity increases less than 50% from baseline in the first year of treatment, final height is approached and growth velocity is less than 2 cm total growth in 1 year, adherence issues, or if final height is attained.<sup>13,14</sup> No new evidence has been found to support of any difference in efficacy/effectiveness or safety between the different somatropin products and formulations for any population or subgroup.<sup>13-15</sup> Previous reviews did find low quality evidence that use of GH in childhood may increase all-cause mortality as an adult and may increase incidence of cancer as an adult and increase secondary malignancies in cancer survivors.<sup>15</sup> Lastly, evidence was insufficient to identify a clinically meaningful benefit for GH treatment in adults.<sup>15</sup>

#### **Recommendation:**

- Update the growth hormone prior authorization criteria to align with HERC coverage guidance and FDA-approved indications.
- After evaluation of costs in the executive session, make Nutropin AQ Nuspin® non-preferred.

#### **References:**

1. Health Evidence Review Commission. HERC Prioritized List of Health Services. October 1, 2022. <https://www.oregon.gov/oha/HPA/DSI-HERC/PrioritizedList/10-1-2022%20Prioritized%20List%20of%20Health%20Services.pdf>. Accessed 10/18/2022.
2. Health Evidence Review Commission. HERC Prioritized List of Health Services. January 1, 2022. <https://www.oregon.gov/oha/HPA/DSI-HERC/Pages/Prioritized-List-Archives.aspx#d152c280-dd0c-4b58-86ee-da303b826eee>. Accessed 10/18/2022.
3. Genotropin® (somatropin) [prescribing information]. Pfizer, Inc.; New York (NY); 2016 Sep.
4. Humatrope® (somatropin) [prescribing information]. Lilly USA, LLC; 2016 Dec.
5. Norditropin® (somatropin) [prescribing information]. Novo Nordisk Inc.; Plainsboro (NJ); 2018 Feb.
6. Nutropin AQ® (somatropin) [prescribing information]. Genentech, Inc.; San Francisco (CA); 2016 Dec.

7. Omnitrope® (somatropin) [prescribing information]. Sandoz, Inc.; Princeton (NJ); 2016 Dec.
8. Saizen® (somatropin) [prescribing information]. EMD Serono, Inc.; Rockland (MA); 2018 May.
9. Serostim® (somatropin) [prescribing information]. EMD Serono, Inc.; Rockland (MA); 2018 May.
10. Zomacton® (somatropin) [prescribing information]. Ferring Pharmaceuticals, Inc.; Parsippany (NJ); 2018 Jan.
11. Zorbtive® (somatropin) [prescribing information]. EMD Serono, Inc.; Rockland (MA); 2017 May.
12. Skytrofa (lonapegsomatropin subcutaneous injection) [Prescribing Information]. Palo Alto, CA. Ascendis Pharma, Inc. August 2021.
13. Drug Use Research & Management Program. Drug Class Update: Growth Hormones. 2012;  
[http://www.orpdl.org/durm/meetings/meetingdocs/2012\\_09\\_27/archives/2012\\_09\\_27\\_GH\\_Scan.pdf](http://www.orpdl.org/durm/meetings/meetingdocs/2012_09_27/archives/2012_09_27_GH_Scan.pdf). Accessed October 18, 2022.
14. Drug Use Research & Management Program. Drug Class Update with New Drug Evaluation: Growth Hormones. 2021;  
[http://www.orpdl.org/durm/meetings/meetingdocs/2021\\_12\\_02/archives/2021\\_12\\_02\\_GH\\_ClassUpdate.pdf](http://www.orpdl.org/durm/meetings/meetingdocs/2021_12_02/archives/2021_12_02_GH_ClassUpdate.pdf). Accessed October 18, 2022.
15. Drug Use Research & Management Program. Literature Scan: Growth Hormones. 2017;  
[http://www.orpdl.org/durm/meetings/meetingdocs/2017\\_09\\_28/archives/2017\\_09\\_28\\_Growth\\_Hormone\\_LitScan.pdf](http://www.orpdl.org/durm/meetings/meetingdocs/2017_09_28/archives/2017_09_28_Growth_Hormone_LitScan.pdf). Accessed October 18, 2022.

#### Appendix 1: Prior Authorization Criteria

## Growth Hormones

### **Goal(s):**

- Restrict use of growth hormone (GH) in adults for where there is medical evidence of effectiveness and safety and supported by expert guidelines.

NOTE: Treatment with GH in children and adolescents (for any indication) must be evaluated for medical appropriateness and medical necessity on a case-by-case basis.

### **Length of Authorization:**

- Up to 12 months

### **Requires PA:**

- All GH products require prior authorization for OHP coverage. Treatment is not included for use in antiaging therapy or to enhance athletic ability or for body building.

### **Covered Alternatives:**

- Current PMPDP preferred drug list per OAR 410-121-0030 at [www.orpdl.org](http://www.orpdl.org)
- Searchable site for Oregon FFS Drug Class listed at [www.orpdl.org/drugs/](http://www.orpdl.org/drugs/)

**Table 1. Pediatric and Adults FDA Approved Indications for Growth Hormone**

somatotropin										Lonapeg-somatropin
	Genotropin	Norditropin	Nutropin AQ	Humatrope	Omnitrope	Saizen	Serostim	Zorbtive	Zomacton	Skytrofa
<b>Pediatric Indications</b>										
GHD	X	X	X	X	X	X			X	X
Prader-Willi Syndrome	X	X			X					
Noonan Syndrome		X								
Turner Syndrome	X	X	X	X	X				X	
Idiopathic Short Stature	X	X	X	X	X				X	
SHOX Deficiency				X					X	
Growth Failure Secondary to CKD			X							
Small for Gestational Age	X	X		X	X				X	
HIV Associated Cachexia							X			
<b>Adult Indications</b>										
GHD	X	X	X	X	X	X			X	
HIV Associated Cachexia							X			
SBS								X		

Abbreviations: CKD = chronic kidney disease; FDA = Food and Drug Administration; GHD = growth hormone deficiency; HIV = human immunodeficiency virus; SBS = short bowel syndrome; SHOX = Short stature homeobox-containing gene

## Initial Approval Criteria

1. What is the diagnosis being treated?	Record ICD10 code	
2. Is the diagnosis promotion of growth delay in a child with 3 <sup>rd</sup> degree burns?	<b>Yes:</b> Document and send to DHS Medical Director for review and pending approval	<b>No:</b> Go to #3
3. Has the provider documented goals of therapy and objective baseline assessment (e.g., quality of life, exercise capacity, height, body composition improvements, etc)?  Note: these same assessments should be evaluated for continuation of treatment.	<b>Yes:</b> Go to #4	<b>No:</b> Pass to RPh. Deny; medical appropriateness
4. Is the request for one of the conditions listed below?  For children and adolescents age 17 and younger <ul style="list-style-type: none"> <li>• Growth hormone deficiency (GHD)</li> <li>• Prader-Willi syndrome</li> <li>• Noonan syndrome</li> <li>• Turner syndrome</li> <li>• Idiopathic Short Stature</li> <li>• Growth Failure secondary to chronic kidney disease (CKD)</li> <li>• Small for gestational age</li> <li>• Short stature homeobox-containing (SHOX) gene deficiency</li> <li>• HIV Associated Cachexia</li> </ul> For adults age 18 years and older <ul style="list-style-type: none"> <li>• Growth hormone deficiency (GHD)</li> <li>• HIV Associated Cachexia</li> <li>• Short Bowel Syndrome (SBS)</li> </ul>	<b>Yes:</b> Go to #6	<b>No:</b> Go to #5

## Initial Approval Criteria

<p>5. Is this a request regarding an EPSDT* benefit for a patient 20 years old or younger?</p>	<p><b>Yes:</b> Pass to RPh for final decision. Final denial decisions are based on case-by-case review of medical necessity and medical appropriateness, considering an individual child's needs. If supporting literature and patient history is provided, approve for up to 6 months. Otherwise, Deny; medical appropriateness.</p>	<p><b>No:</b> Pass to RPh. Deny; medical appropriateness</p>
<p>6. Is this a request for initiation of growth hormone therapy?</p>	<p><b>Yes:</b> Go to #7</p>	<p><b>No:</b> Go to <b>Renewal Criteria</b></p>
<p>7. Is the agent being prescribed by, or in consultation with, an appropriate specialist (e.g., an endocrinologist for adults or a pediatric endocrinologist or pediatric nephrologist for children/adolescents)?</p>	<p><b>Yes:</b> Go to #8</p>	<p><b>No:</b> Pass to RPh. Deny; medical appropriateness</p>
<p>8. Is the request for a pediatric patient with Prader-Willi syndrome who also has:</p> <ul style="list-style-type: none"> <li>• Severe obesity? Or</li> <li>• A history of upper airway obstruction or sleep apnea? Or</li> <li>• Severe respiratory impairment?</li> </ul> <p>Note: Recombinant somatropin is contraindicated in these patients due to the risk of sudden death.</p>	<p><b>Yes:</b> Pass to RPh. Deny; medical appropriateness</p>	<p><b>No:</b> Go to #9</p>

Initial Approval Criteria		
9. Is the request for treatment of hypopituitarism (E23.0)?	<b>Yes:</b> Go to #10	<b>No:</b> Go to #11
10. Is the growth hormone deficiency confirmed by a negative response to a growth hormone stimulation test (eg, serum GH levels of <5 ng/ml on stimulation testing with either glucagon or insulin)?  <u>OR</u>  Is there evidence that the patient had the pituitary removed/destroyed or has had panhypopituitarism since birth?	<b>Yes:</b> Go to #11	<b>No:</b> Pass to RPh. Deny; medical appropriateness
11. Is the requested product preferred?	<b>Yes:</b> Approve for up to 12 months	<b>No:</b> Go to #12
12. Will the prescriber change to a preferred product that is medically appropriate for the condition?  <u>Message:</u> <ul style="list-style-type: none"> <li>Preferred products are reviewed for comparative effectiveness and safety by the Oregon Pharmacy and Therapeutics (P&amp;T) Committee.</li> </ul>	<b>Yes:</b> Inform prescriber of covered alternatives in class and approve for up to 12 months.	<b>No:</b> Go to #13
13. Is the request for lonapegsomatropin?	<b>Yes:</b> Go to #14	<b>No:</b> Approve for up to 6 months
14. Is the request for a pediatric patient 1 year or older with a body weight >11.5 kg?	<b>Yes:</b> Approve for up to 6 months	<b>No:</b> Pass to RPh. Deny; medical appropriateness.

\*=Early and Periodic Screening, Diagnostic & Treatment

## Renewal Criteria

1. Document approximate date of initiation of therapy and diagnosis (if not already done).		
2. Was treatment with this agent initiated in a patient prior to reaching adulthood (<18 years of age) to improve growth velocity or height?	<b>Yes:</b> Go to #3	<b>No:</b> Go to #5
3. Is growth velocity greater than 2.5 cm per year?	<b>Yes:</b> Go to #6	<b>No:</b> Go to #4
4. Is there documentation that benefits of therapy continue to outweigh risks?  Current guidelines recommend discontinuation of treatment once growth velocity is less than 2.5 cm per year. Risks, benefits, and goals of therapy should be reassessed in patients whose epiphyses are closed.	<b>Yes:</b> Go to #5	<b>No:</b> Pass to RPh. Deny; medical appropriateness.
5. Is there documentation of improvement from baseline as assessed by the prescribing provider?	<b>Yes:</b> Go to #6	<b>No:</b> Pass to RPh. Deny; medical appropriateness.
6. Is the product requested preferred?	<b>Yes:</b> Approve for up to 12 months	<b>No:</b> Go to #7
7. Will the prescriber consider a change to a preferred product?  <u>Message:</u> <ul style="list-style-type: none"> <li>Preferred products are reviewed for comparative effectiveness and safety by the Oregon Pharmacy and Therapeutics (P&amp;T) Committee.</li> </ul>	<b>Yes:</b> Inform prescriber of covered alternatives in class and approve for up to 12 months	<b>No:</b> Approve for up to 6 months

P&T Review: 12/22 (DE);12/21; 6/21;11/18; 9/17; 9/16; 9/15; 9/14; 9/10; 5/10; 9/08; 2/06; 11/03; 9/03  
 Implementation: 1/1/19; 10/13/16; 1/1/11, 7/1/10, 4/15/09, 10/1/03, 9/1/06; 10/1/03