Policy and Procedure	
PHARMACY PRIOR AUTHORIZATION POLICY AND CRITERIA ORPTCEND009A.1025	**ENDOCRINE & METABOLIC DRUGS** **HUMAN GROWTH HORMONES** See Table 1 for Medications
Effective Date: 1/1/2026	**Review/Revised Date**: 09/97, 02/98, 07/99, 07/00, 05/02, 06/03, 06/04, 06/05, 06/06, 06/07, 12/07, 06/08, 12/08, 04/09, 04/10, 02/11, 04/14, 04/15, 10/15, 02/16, 03/17, 03/18, 08/18, 02/19, 09/19, 03/20, 03/21, 08/21, 03/22, 02/23, 03/23, 10/23, 03/24, 02/25,10/25 (NN)
Original Effective Date: 11/90	**P&T Committee Meeting Date**: 11/90, 06/95, 07/97, 09/97, 02/98, 07/99, 07/00, 06/02, 06/03, 06/04, 06/05, 06/06, 06/07, 12/07, 06/08, 12/08, 04/09, 04/10, 02/11, 10/12, 02/13, 04/14, 04/15, 10/15, 04/16, 04/17, 04/18, 09/18, 04/19, 10/19, 04/20, 04/21, 08/21, 04/22, 02/23, 04/23, 10/23, 04/24, 04/25, 10/25
Approved by: Oregon Region Pharmacy and Therapeutics Committee	

SCOPE:
Providence Health Plan and Providence Health Assurance as applicable (referred to individually as “Company” and collectively as “Companies”).

APPLIES TO:
Commercial

POLICY CRITERIA:

COVERED USES:
All Food and Drug Administration (FDA) approved indications not otherwise excluded from the benefit.

REQUIRED MEDICAL INFORMATION:
For ALL requests, must meet the following criteria:

1. For non-preferred growth hormone (GH) request, documentation that the patient has intolerance, FDA labeled contraindication, or hypersensitivity to all preferred growth hormone product(s) that is not expected to occur with the requested non-preferred agent (medical record required). Requests for long-acting products (such as lonapegsomatropin [Skytrofa®] or somapacitan-beco [Sogroya]) to improve compliance or to reduce dosing frequency are considered not medically necessary. Please see Table 1 for preferred products.
2. For **pediatric patients** only: Documented evidence of open epiphyses, defined as one of the following:
    a. Tanner stage less than 4
    OR
    b. Bone age less than 16 years in male or less than 14 years in female. Bone age must be obtained annually when chronologic age reaches 15 years in male or 13 years in female

For initial authorization requests, must meet criteria listed below for each specific diagnosis:

1. **Growth Hormone Deficiency (GHD) in pediatrics**, must meet ONE of the following criteria:
    a. Newborn with hypoglycemia and both of the following criteria:
        i. Serum GH level less than or equal to 5 micrograms per liter (5 mcg/L)
        ii. One of the following:
            1) One additional pituitary hormone deficiency (other than GH) OR
            2) Classical imaging triad (ectopic posterior pituitary and pituitary hypoplasia with abnormal stalk)
    b. Patient with extreme short stature [defined as height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex] and **all** of the following:
        i. Insulin-like growth factor (IGF)-1 level at least 2 SDs below normal
        ii. Insulin-like growth factor binding protein-3 (IGFBP-3) at least 2 SDs below normal
        iii. Delayed bone age, defined as bone age that is 2 SDs below the mean for chronological age
    c. Patient has pituitary abnormality (secondary to a congenital anomaly, tumor, or irradiation) and meets **both** of the following criteria:
        i. One additional pituitary hormone deficiency (other than GH)
        ii. Evidence of short stature/growth failure by one of the following:
            1) Height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex
            2) Height for age/sex is below the 3rd percentile (or greater than 2 SDs below the mean) **AND** untreated growth velocity (GV) is below the 25th percentile (must have at least one year of growth data)
            3) Severe growth rate deceleration (GV measured over one year of **more** than 2 SDs below the mean for age/sex)
    d. All other patients with suspected GHD must meet all the following criteria:
        i. Evidence of short stature/growth failure by one of the following:
            1) Height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex
            2) Height for age/sex is below the 3rd percentile (or greater than 2 SDs below the mean) **AND** untreated growth velocity (GV) is below the 25th percentile (must have at least one year of growth data)
            3) Severe growth rate deceleration (GV measured over one year of **more** than 2 SDs below the mean for age/sex)
        ii. Documented biochemical GHD diagnosed by one of the following:

1) Two GH stimulation tests (using a provocative agent such as arginine, clonidine, glucagon, insulin or levodopa) showing peak GH concentrations of less than 10 ng/ml
2) One GH stimulation test level less than 15 ng/ml and insulin-like growth factor (IGF)-1 and IGFBP-3 levels below normal for bone age/sex

2. **Growth Hormone Deficiency (GHD) in Adults (Childhood-Onset):**
   a. Patient has congenital defects, genetic defects, organic hypothalamic-pituitary disease (e.g., suprasellar mass with irreversible damage from previous surgery and irradiation) or other history of destructive lesions of the hypothalamic region such as traumatic brain injury
      AND
   b. One of the following:
      i. At least three pituitary hormone deficiencies (other than GH)
      ii. Less than three pituitary hormone deficiencies, or insulin-like growth factor (IGF)-1 level below normal for age/sex, and one of the following confirmatory stimulation tests (for appropriate IGF-1 levels by age check the Mayo Clinic Interpretive Handbook at https://www.mayocliniclabs.com/test-catalog/overview/62750#Clinical-and-Interpretive
         1) Insulin Tolerance Test (ITT) with peak GH less than or equal to 5.0 microgram/L
         2) Glucagon Stimulation Test (GST) with low peak GH based on body mass index (BMI), as follows:
            a) BMI less than 25: Peak GH less than or equal to 3 microgram/L
            b) BMI 25-30: Peak GH less than/equal to 1 microgram/L. For patients with high clinical suspicion of GHD, peak GH less than 3 microgram/L may be considered
            c) BMI greater than/equal to 30: Peak GH less than/equal to 1 microgram/L
         3) If both the ITT and GST are contraindicated, macimorelin with peak GH less than or equal to 2.8 microgram/L

3. **Growth Hormone Deficiency (GHD) in Adults (Adult-Onset):**
   a. *For patients with history of destructive lesions of the hypothalamic region* (such as hypothalamic-pituitary tumors, surgery, or cranial irradiation, empty sella, pituitary apoplexy, traumatic brain injury, subarachnoid hemorrhage, Rathke's cleft cysts, autoimmune hypophysitis), all of the following:
      i. Insulin-like growth factor (IGF)-1 level below normal for age/sex

ii. One of the following confirmatory stimulation tests (for appropriate IGF-1 levels by age check the Mayo Clinic Interpretive Handbook at https://www.mayocliniclabs.com/test-catalog/overview/62750#Clinical-and-Interpretive
    1) Insulin Tolerance Test (ITT) with peak GH less than or equal to 5.0 microgram/L
    2) Glucagon Stimulation Test (GST) with low peak GH based on body mass index (BMI), as follows:
        a) BMI less than 25: Peak GH less than or equal to 3 microgram/L
        b) BMI 25-30: Peak GH less than/equal to 1 microgram/L. For patients with high clinical suspicion of GHD, peak GH less than 3 microgram/L may be considered
        c) BMI greater than/equal to 30: Peak GH less than/equal to 1 microgram/L
    3) If both the ITT and GST are contraindicated, macimorelin with peak GH less than or equal to 2.8 microgram/L

b. *For patients with organic disease of the hypothalamic region from congenital or genetic defects* one of the following:
    i. At least three pituitary hormone deficiencies (other than growth hormone), or
    ii. Less than three pituitary hormone deficiencies, or IGF-1 level below normal for age/sex, and one of the following confirmatory stimulation tests (for appropriate IGF-1 levels by age check the Mayo Clinic Interpretive Handbook at https://www.mayocliniclabs.com/test-catalog/overview/62750#Clinical-and-Interpretive
        1) Insulin Tolerance Test (ITT) with peak GH less than or equal to 5.0 microgram/L
        2) Glucagon Stimulation Test (GST) with low peak GH based on body mass index (BMI), as follows:
            a) BMI less than 25: Peak GH less than or equal to 3 microgram/L
            b) BMI 25-30: Peak GH less than/equal to 1 microgram/L. For patients with high clinical suspicion of GHD, peak GH less than 3 microgram/L may be considered
            c) BMI greater than/equal to 30: Peak GH less than/equal to 1 microgram/L

4. **Growth Failure Secondary to Chronic Kidney Disease (CKD)**, somatropin may be covered if the following criteria are met:

a. Other causes of growth failure have been ruled out and nutritional status has been optimized

AND

b. Evidence of short stature/growth failure by one of the following:
   i. Height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex
   ii. Height for age/sex is below the 3rd percentile (or greater than 2 SDs below the mean) **AND** untreated growth velocity (GV) is below the 25th percentile (must have at least one year of growth data)
   iii. Severe growth rate deceleration (GV measured over one year of **more** than 2 SDs below the mean for age/sex)

c. Note: Authorization will be withdrawn after transplantation.

5. **HIV associated wasting/cachexia**, all of the following criteria must be met:
   a. Involuntary loss of at least 10% body weight in the last 12 months
   b. Absence of other related illnesses contributing to weight loss
   c. Documented failure, intolerance, or contraindication to two appetite stimulants and/or other anabolic agents.
   d. Compliance with antiretroviral therapy for at least 30 days
6. **Noonan Syndrome**, somatropin may be covered if the following criteria are met:
   a. Diagnosis confirmed by genetic testing or made by pediatric endocrinologist based on clinical features (i.e., classic facies, congenital heart disease, abnormal skeletal features, factor XI deficiency, hearing loss, developmental delays),

   AND

   b. Evidence of short stature/growth failure by one of the following:
      i. Height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex
      ii. Height for age/sex is below the 3rd percentile (or greater than 2 SDs below the mean) **AND** untreated growth velocity (GV) is below the 25th percentile (must have at least one year of growth data)
      iii. Severe growth rate deceleration (GV measured over one year of **more** than 2 SDs below the mean for age/sex)
7. **Prader-Willi Syndrome (PWS), Turner Syndrome (TS), Short stature homeobox-containing (SHOX) deficiency**, somatropin may be covered if the following criteria are met:
   a. Documented confirmation of diagnosis through genetic testing

   AND

   b. Evidence of short stature/growth failure by one of the following:
      i. Height standard deviation score (SDS) of more than 3 SDs below the mean for chronological age/sex

   ii. Height for age/sex is below the 3rd percentile (or greater than 2 SDs below the mean) **AND** untreated growth velocity (GV) is below the 25th percentile (must have at least one year of growth data)
   iii. Severe growth rate deceleration (GV measured over one year of **more** than 2 SDs below the mean for age/sex)
8. **Small for Gestational Age (SGA) (somatropin only)**
   a. Birth weight and/or length at least two SDs below the mean for gestational age

   AND

   b. Failure to reach catch-up growth by two years of age, defined as height at least two SDs below the mean for age/sex

For reauthorization requests, must meet criteria listed below for each specific diagnosis:

1. **Reauthorization for Adult GHD** requires evidence of improved quality of life, good tolerability and annual documentation of IGF-1 levels with appropriate dosage adjustments. (GH requirements often decrease with age).
2. **Reauthorization for Pediatric GHD, Noonan Syndrome, Chronic Renal Insufficiency, SGA, PWS, TS, SHOX deficiency:**
   a. Evidence of growth velocity (GV) of greater than 2.5 cm/year

EXCLUSION CRITERIA:
Treatment of idiopathic short stature.

AGE RESTRICTIONS: Age must be appropriate based on FDA-approved indication

PRESCRIBER RESTRICTIONS:
GH therapy must be prescribed by, or in consultation with the appropriate provider specialist listed by indication below:

- Adult GHD: endocrinologist
- Growth Failure Secondary to CKD: pediatric endocrinologist or pediatric nephrologist
- HIV Associated Wasting/Cachexia: specialist in the management of HIV
- All other indications: pediatric endocrinologist

COVERAGE DURATION:

- Authorization for HIV-associated wasting/cachexia will be approved for a maximum of 12 months.
- Initial authorization and reauthorization for other indications will be approved for up to one year.

QUANTITY LIMITS:

Dose must be appropriate based on FDA-approved indication

Requests for indications that were approved by the FDA within the previous six (6) months may not have been reviewed by the health plan for safety and effectiveness and inclusion on this policy document. These requests will be reviewed using the New Drug and or Indication Awaiting P&T Review; Prior Authorization Request ORPTCOPS047.

Requests for a non-FDA approved (off-label) indication requires the proposed indication be listed in either the American Hospital Formulary System (AHFS), Drugdex, or the National Comprehensive Cancer Network (NCCN) and is considered subject to evaluation of the prescriber's medical rationale, formulary alternatives, the available published evidence-based research and whether the proposed use is determined to be experimental/investigational.

Coverage decisions are made on the basis of individualized determinations of medical necessity and the experimental or investigational character of the treatment in the individual case.

INTRODUCTION:

Endogenous human growth hormone (GH), or somatropin, is a polypeptide hormone secreted by the pituitary gland and activates the production of insulin-like growth factor-I (IGF-I) and IGF binding protein-3 (IGFBP-3). Alone or with IGF-I, GH modulates lipid, carbohydrate, and protein metabolism, and fluid balance, and stimulates the development of bone, cartilage, skeletal muscle, and gonadal tissue. This process is responsible for longitudinal growth.

Biosynthetic GH is produced via recombinant DNA technology using genetically altered *Escherichia coli*. rhGH is available in two forms, somatropin and somatrem, which both consist of a sequence of 191 amino acids that is identical to that of endogenous, pituitary-derived human growth hormone.

FDA APPROVED INDICATIONS:

Available Products	GHD* IN CHILDREN	GHD IN ADULTS	CKD	PWS	TS	SGA	ISS	SHOX	HIV	NS
Daily Growth Hormone Products										
Norditropin® (mg/kg/day)	✓ 0.024-0.034	✓ 0.004-0.016+		✓ Up to 0.034	✓ Up to 0.067	✓ Up to 0.067	✓ Up to 0.067			✓ Up to 0.066
Genotropin® (mg/kg/week)	✓ 0.16-0.24	✓ 0.04-0.08+		✓ 0.24	✓ 0.33	✓ Up to 0.48	✓ Up to 0.47			
Humatrope® (mg/kg/week^)	✓ 0.18-0.3	✓ Initiate at 0.006 mg/kg daily (Max 0.0125 mg/kg daily+)			✓ Up to 0.375	✓ Up to 0.47	✓ Up to 0.37	✓ 0.35		
Nutropin AQ® (mg/kg/week)	✓ 0.3-0.7	✓ 0.006 mg/kg daily (Max 0.025-0.0125 mg/kg daily depending on age+)	✓ Up to 0.35		✓ Up to 0.375		✓ Up to 0.3			
Omnitrope® (mg/kg/week)	✓ 0.16-0.24	✓ 0.04-0.08		✓ 0.24	✓ 0.33	✓ Up to 0.48	✓ Up to 0.47			
Serostim® (mg/kg/day)									✓ 0.1 (Max 6 mg daily)	
Zomacton® (mg/kg/week)	✓ 0.18-0.3	✓ Initiate at 0.006 mg/kg daily (Max 0.0125 mg/kg daily+)			✓ Up to 0.375	✓ Up to 0.47	✓ Up to 0.37	✓ 0.35		
Long-acting/Weekly Growth Hormone Products										
Skytrofa® (mg/kg/week)	✓ 0.24	✓ 0.7- max 6.3 mg/week								
Sogroya® (mg/kg/week)	✓ Starting dose 0.16	✓ 1.5- max 8mg/ week								
Ngenla® (mg/kg/week)	✓ 0.66									

* GHD-growth hormone deficiency, CKD-chronic kidney disease, PWS-Prader Willi Syndrome, TS-Turner's Syndrome, SGA-Small for Gestational Age, ISS-Idiopathic Short Stature, SHOX-SHOX deficiency, HIV- HIV-associated wasting or cachexia, NS-Noonan Syndrome

+ Weight-based dosing. Please see package insert for non-weight-based dosing recommendations. Current guidelines recommend adult non-weight based dosing be initiated at 0.1 -0.2 mg/day and gradually titrated to the minimal dose that normalizes serum IGF-1 levels.

POSITION STATEMENT:

In children and adolescents, the rate of growth in height is primarily determined by the rate at which endogenous GH is excreted. Inadequate GH activity during childhood and adolescence results in short stature, generally defined as a height for

age that is two or more standard deviation scores (SDS) below that in the normal population.

After linear growth has been completed (growth rate is less than 2.5cm/year), GH therapy should be stopped for at least 3 months and then retesting should be done to determine if GHD persists to qualify for GHD in adults.

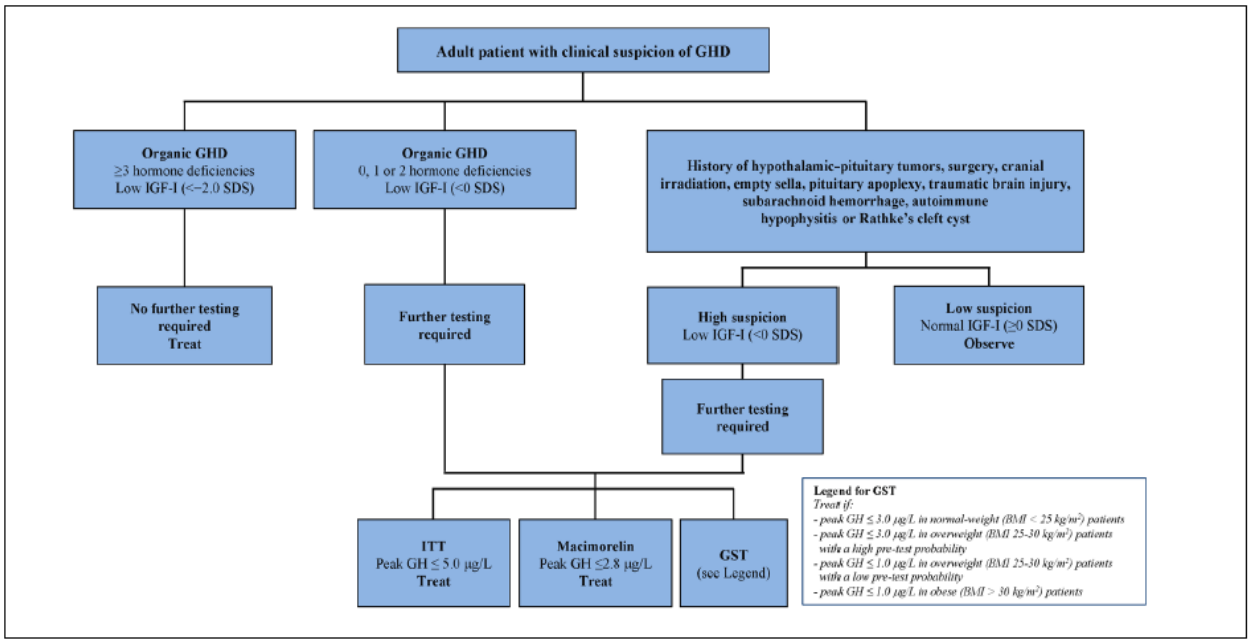
Diagnosis of Growth Hormone Deficiency can be established using the Insulin Tolerance Test (ITT), a GH stimulation test, or the growth hormone releasing hormone (GHRH)-arginine test. In adults, the presence of deficiencies in three or more pituitary hormones (ADH, ACTH, FSH, LH or TSH) strongly suggests the presence of GHD.

The American Association of Clinical Endocrinologists (AACE) 2019 guideline update states that GHD in adults is commonly caused by damage to the hypothalamic-pituitary region (*e.g.,* tumors, surgery, radiation) or from isolated GHD. The symptoms of GHD in adults can mimic that or metabolic syndrome; therefore proper diagnosis is important. Diagnosis of adult GHD typically uses biochemical testing when clinical suspicion of GHD is present; the insulin tolerance test is the "gold-standard" of diagnostic tool, but is losing favor due to administrative, operational, and safety concerns. For patients where this test is contraindicated, the guidelines recommend glucagon-stimulation test (GST) and the macimorelin test as alternatives.

Stimulation testing for adults is recommended for the following conditions that can cause GHD in adults:

- Acquired conditions: skull-base lesions, pituitary adenoma, craniopharyngioma, Rathke's cleft cyst, meningioma, glioma/astrocytoma, neoplastic sellar and parasellar lesions, chordoma, hamartoma, lymphoma, metastases, brain injury, blast injury, infiltrative/granulomatous disease, Langerhans cell histiocytosis, autoimmune hypophysitis, sarcoidosis, tuberculosis, amyloidosis
- Surgery to the sella, suprasellar, and parasellar region
- Cranial irradiation
- Central nervous system infections: bacteria, viruses, fungi, parasites
- Infarction/hemorrhage: apoplexy, Sheehan's syndrome, subarachnoid, hemorrhage, ischemic stroke, snake bite
- Empty sella
- Hydrocephalus
- Idiopathic

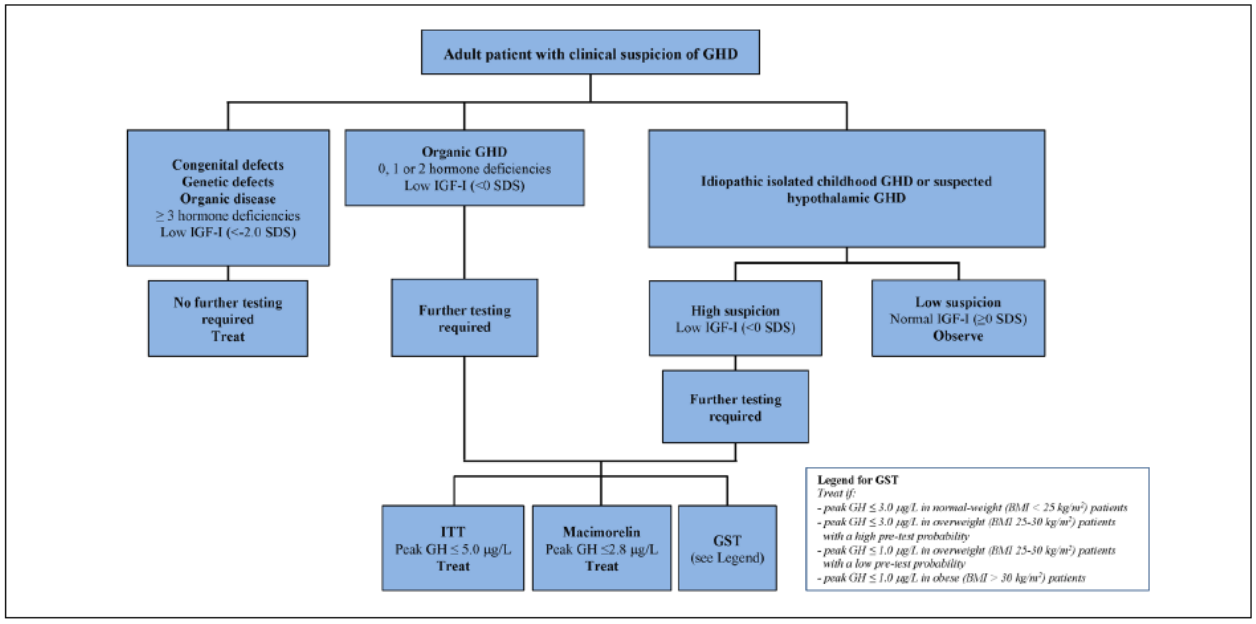
Figure 1. Algorithm for testing adult patients with clinical suspicion of GHD (from AACE/ACE guidelines)



Some patients who require GH treatment in childhood for statural growth due to GHD will require GH therapy transitionally to normalize metabolism and quality of life. After linear growth has been completed (growth rate is less than 2.5cm/year), GH therapy should be stopped for at least 1 month and then retesting should be done to determine if GHD persists to qualify for GHD in adults. Exceptions include those with known mutations, embryopathic/congenital defects, irreversible hypothalamic-pituitary structural lesions, and evidence of panhypopituitarism (at least 3 pituitary hormone deficiencies) and serum IGF-I levels below the age- and sex-appropriate reference range off GH therapy.

The metabolic improvements and long-term benefit with continuation of GH treatment in GH-deficient adolescents transitioning to adulthood remains uncertain

Figure 2. Algorithm for testing transitioning adult patients with clinical suspicion of GHD (from AACE/ACE guidelines)



Dosing recommendations are now based more on individualizing therapy for patients to limit side effects, especially in the elderly, obese, and in patients with diabetes. The AACE guidelines state that "as a general rule, it is recommended to titrate the [GH] dose to reach serum IGF-1 levels within the age-adjusted reference range provided by the laboratory utilized (IGF-1 SDS between –2 and +2). … Individual patient characteristics (e.g., fitness, comorbidities and overall health risk) should be taken into consideration when deciding on starting doses. Below are suggested starting doses:

- Age <30 years: 0.4-0.5 mg/day (may be higher for patients transitioning from pediatric treatment)
- Age 30-60 years: 0.2-0.3 mg/day
- Age >60 years: 0.1-0.2 mg/day

In transition patients, we recommend to resume rhGH at 50% of the dose used in childhood. In patients with concurrent DM, obesity, older age, and previous gestational DM, we recommend starting at lower rhGH doses (e.g., 0.1-0.2 mg/day)."

Use of Growth Hormone is contraindicated in the following conditions:

- Evidence of active malignancy
- Acute critical illness or acute respiratory failure
- Diabetic retinopathy (active proliferative or severe nonproliferative)
- Growth promotion in pediatric patients with closed epiphyses
- Additional product specific contraindications may exist

Use of GH for non-FDA approved indications is considered investigational. These non-FDA approved indications include:

- Skeletal dysplasias
- Constitutional delay of growth and development
- Russell-Silver Syndrome
- Osteogenesis imperfecta
- Down syndrome
- Infertility
- Obesity
- Muscular dystrophy
- Cystic Fibrosis
- Spina bifida
- Depression
- Crohn's Disease
- Precocious puberty
- Anti-aging

REFERENCE/RESOURCES:

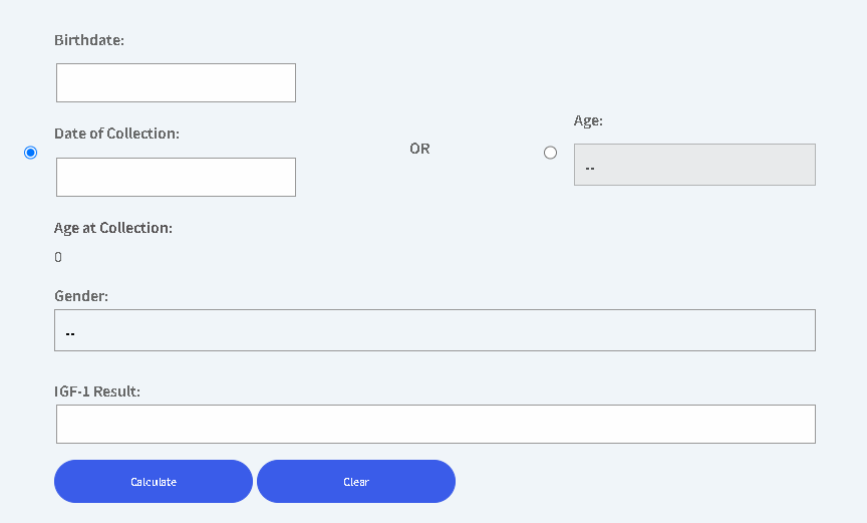
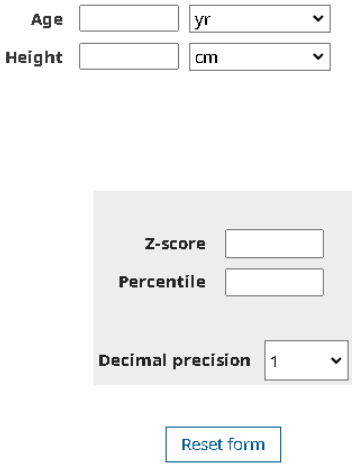
1. Relevant package inserts
2. American Association of Clinical Endocrinologists and American College of Endocrinology. Guidelines for management of Growth Hormone Deficiency in adults and patients transitioning from pediatric to adult care. – 2019 Update. Endocr Pract. 2019;25(No. 11): 1191-1232.
3. Molitch ME, Clemmons DR, Malozowski S et al. Evaluation and Treatment of Adult Growth Hormone Deficiency: An Endocrine Society Clinical Practice Guideline. J Clin Endocrinol Metab. 2011;96(6):1587–1609.
4. Drug and Therapeutics Committee of the Pediatric Endocrine Society. Guidelines for Growth Hormone and Insulin-Like Growth Factor-I Treatment in Children and Adolescents: Growth Hormone Deficiency, Idiopathic Short Stature, and Primary Insulin-Like Growth Factor-I Deficiency. Horm Res Paediatr 2016;86:361–397
5. American Association of Clinical Endocrinologists Medical Guidelines for Clinical Practice for Growth Hormone Use in Adults and Children – 2003 Update. Endocr Pract. 2003;9(No. 1)
6. The Growth Hormone Research Society. Consensus Guidelines for the Diagnosis and Treatment of Growth Hormone (GH) Deficiency in Childhood and Adolescence: Summary Statement of the GH Research Society. *J Clin Endocrinol Metab.*, 2000;85(11):3990-3993.
7. Lee, Mary M. Idiopathic Short Stature. NEJM 354:24 2576-2582.

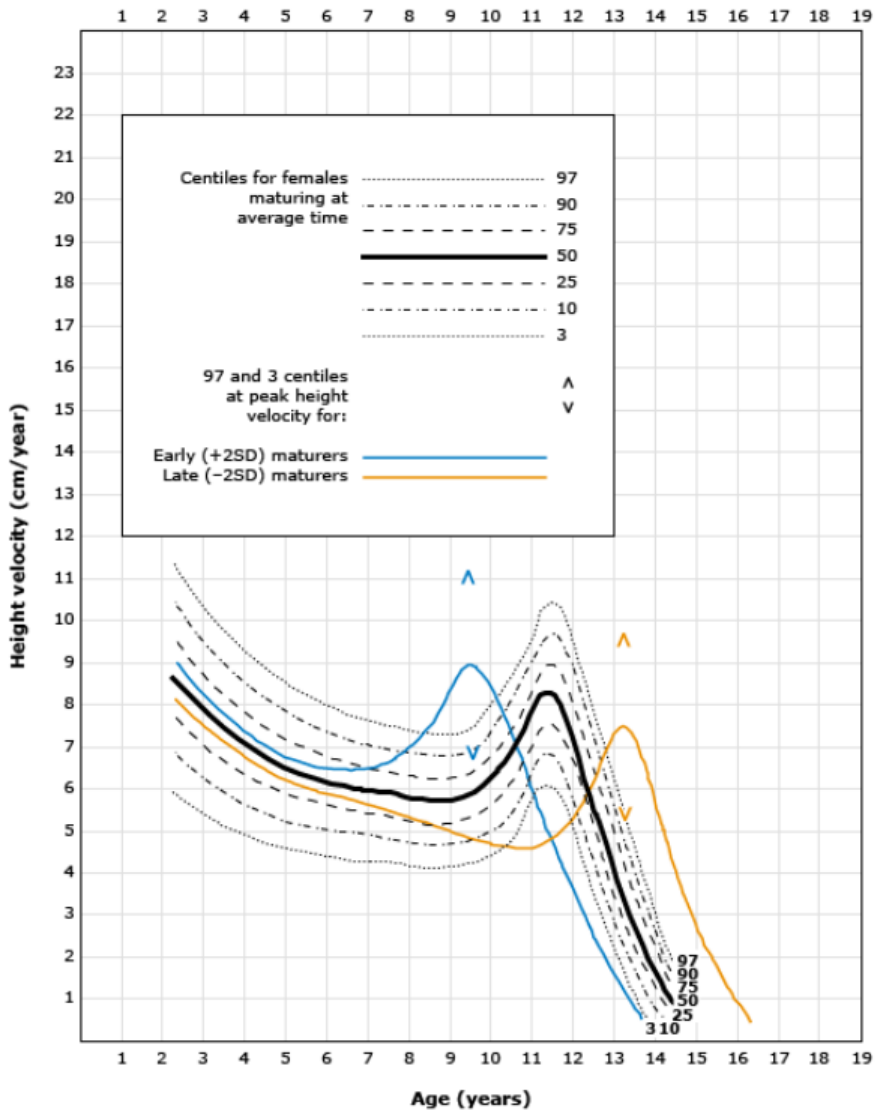
8. The Growth Hormone Research Society. Consensus Guidelines for Recombinant Human Growth Hormone Therapy in Prader-Willi Syndrome. *J Clin Endocrinol Metab*. 2013;98(6):E1072-87.
9. Clayton PE, Cianfarani S, Czernichow P, Johannsson G, Rapaport R, Rogol A. Management of the child born small for gestational age through to adulthood: a consensus statement of the International Societies of Pediatric Endocrinology and the Growth Hormone Research Society. J Clin Endocrinol Metab. 2007 Mar;92(3):804-10.

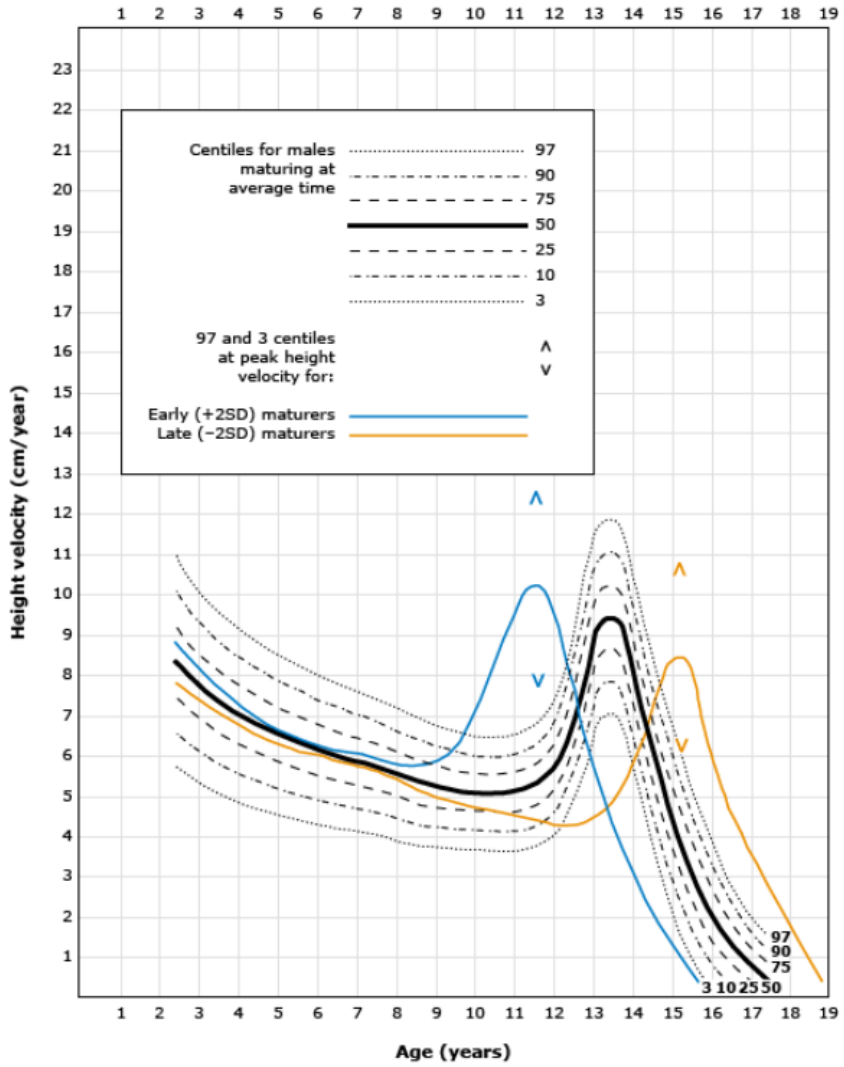
Table 1. Preferred Growth Hormone Products

Preferred Agents	Non-preferred agents
Norditropin®	Flexpro®
Genotropin®	Humatrope®
	Ngenla
	Nutropin AQ®
	Omnitrope®
	Saizen®
	Serostim®
	Skytrofa®
	Sogroya®
	Zomacton®
	Zorbtive®

Table 2: Resources

CDC Growth Charts (2-20 years)	Boy: https://www.cdc.gov/growthcharts/data/set1clinical/cj41c021.pdf Girl: https://www.cdc.gov/growthcharts/data/set1clinical/cj41c024.pdf
Calculator for IGF-1 Standard Deviation (or Z sore)	https://specialtytesting.labcorp.com/resources/tools/endocrinology-calculator  *Please note that this tool is from Labocrop. Diff labs may have diff. parameters. Look for z-score in member's chart notes first if available.
Calculator for Height Percentile and Standard Deviation (or Z score)	Girl: https://www.uptodate.com/contents/calculator-cdc-height-for-age-percentiles-for-females-2-to-20-years Boy: https://www.uptodate.com/contents/calculator-cdc-height-for-age-percentiles-for-males-2-to-20-years  **Z-score = standard deviation**

Height Velocity In American 2-19 years	**Height velocity in American females 2 to 19 years** 

	Height velocity in American males 2 to 19 years 
LabCorp Resources (Lab Reference Values such as IGF-1 and IGFBP-3)	https://specialtytesting.labcorp.com/resources