

Somatropin (various brands) **AMBER 0**

Treatment of adult growth hormone deficiency (NICE TA64) and growth failure in children (NICE TA188)

– see www.lancsम्मg.nhs.uk for further detail

Background

Growth hormone is used to treat growth hormone deficiency in children and adults. Growth hormone of human origin (HGH; somatotrophin) has been replaced by recombinant growth hormone of human sequence; somatropin is licensed for use in adults and children.

Dosage and Administration

Children:

See BNFC monograph via: <https://bnfc.nice.org.uk/drugs/somatropin/>

Adults:

By subcutaneous injection: initially 150–300 micrograms daily, then increased, if necessary, up to 1 mg daily, dose to be increased gradually, use minimum effective dose (requirements may decrease with age).

Please note: dose **formerly** expressed in units; somatropin 1 mg \equiv 3 units.

Monitoring

Within Secondary Care

1. Baseline:
 - Assess the patient and establish the need for Growth Hormone, providing appropriate information on GHD and its treatment.
 - Treatment is initiated and dose titrated based on IGF-1 levels, including a monthly review of the patient for the first three months.
2. Ongoing monitoring:
 - Assessment of quality of life by disease-specific questionnaire (QoL- AGHDA) at 9 months
 - Clinical & laboratory supervision of patients at 6-12 monthly intervals, including assessment of:
 - Weight (BMI),
 - Blood pressure,
 - HbA1c,
 - Thyroid Function Tests (TFTs),
 - Lipid profile,
 - IGF-1,
 - Clinical assessment of general health while the patient remains on GH.

Within primary care

No initial or ongoing monitoring is required in primary care.

Contraindications and Cautions for Use

Contraindications:

Evidence of tumour activity (complete antitumour therapy and ensure intracranial lesions inactive before starting). Not to be used for growth promotion in children with closed epiphyses (or near closure in Prader-Willi syndrome); severe obesity in Prader-Willi syndrome; severe respiratory impairment in Prader-Willi syndrome. Avoid injections containing benzyl alcohol in neonates (in neonates); discontinue at the time of renal transplantation.

Special Warnings and Precautions:

Diabetes mellitus (adjustment of antidiabetic therapy may be necessary); disorders of the epiphysis of the hip (monitor for limping); history of malignant disease; hypoadrenalism (initiation or adjustment of glucocorticoid replacement therapy may be necessary); initiation of treatment close to puberty not recommended in child born small for corrected gestational age; papilloedema; resolved intracranial hypertension (monitor closely); risk of hypothyroidism—manufacturers recommend periodic thyroid function tests; Silver-Russell syndrome.

Side Effects**Common ($\geq 1/100$ to $< 1/10$)**

Carpal tunnel syndrome; fluid retention; headache; joint disorders; lipatrophy; myalgia; oedema; paraesthesia.

Uncommon ($\geq 1/1,000$ to $<1/100$)

Gynaecomastia; idiopathic intracranial hypertension.

Always consult the latest version of the SPC at www.medicines.org.uk/emc/ for full details.

Drug Interactions

Concomitant treatment with glucocorticoids inhibits the growth-promoting effects of somatropin.

Growth hormone decreases the conversion of cortisone to cortisol and may unmask previously undiscovered central hypoadrenalism or render low glucocorticoid replacement doses ineffective.

In women on oral oestrogen replacement, a higher dose of growth hormone may be required to achieve the treatment goal.

This is not an exhaustive list of side effects, cautions, contraindications or interactions. For more information, please refer to the BNF or Summary of Product Characteristics.

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