

Shared Care Guideline

Subcutaneous Growth Hormone (Somatropin)

Specialist Details	Patient Identifier
Name: _____	Date: _____
Location: _____	
Tel: _____	

Introduction

Growth hormone (GH) deficiency is managed with biosynthetic growth hormone (somatropin).

Licensed Indications: Somatropin is used to treat deficiency of growth hormone and is licensed for use in children and adults.

- **Adults:** adult growth hormone deficiency.
- **Children** with growth failure who: have GH deficiency, Turner syndrome, Prader-Willi syndrome, chronic renal insufficiency, are born small for gestational age with subsequent growth failure at 4 years of age or later, have short stature homeobox-containing gene (SHOX) deficiency.

Unlicensed indication: children with growth failure due to causes other than growth hormone deficiency e.g. Noonan's syndrome.

Dose and administration:

- Turner's syndrome: 0.045-0.05mg/kg daily by subcutaneous injection.
- Deficiency of GH in children (including use post radiotherapy): 0.025-0.035mg/kg daily by subcutaneous injection.
- Prader-Willi syndrome: 0.035mg/kg daily by subcutaneous injection.
- Children who are born small for gestational age with subsequent growth failure at \geq 4 years of age: 0.035 mg/kg daily by subcutaneous injection.
- Chronic renal insufficiency in children: 0.045-0.05mg/kg daily by subcutaneous injection.
- SHOX deficiency in children: 0.045-0.05mg/kg daily by subcutaneous injection.
- Adult GH deficiency: initially 0.2 – 0.4mg daily by subcutaneous injection, gradually increased if required to max 2mg daily.

Available as:

Norditropin, Genotropin, Saizen, NutropinAq, Zomacton, Humatrope, Omnitrope.

Pen devices for use with the injection cartridges are not prescribable on NHS but are provided by the clinic.

Hospital Specialist Responsibilities

- Assess if patient is suitable for treatment as per NICE Guidance.
- Provide the patient with relevant information on use, side-effects and need for monitoring of medication.
- Arrange for patients or carer to be trained to administer GH injections.
- Arrange shared care with the patient's GP, sending a copy of this shared care guideline.
- Monitor response to treatment using insulin like growth factor (IGF-1) plasma levels, height and weight measurements, pituitary hormones and pubertal status (if appropriate).
- Review results of safety monitoring and request additional tests as required.
- Provide any other advice or information on therapy or associated therapy to the GP if requested.
- Continue to review the patient at specified intervals, sending a written summary to the GP whenever the patient is reviewed.

- Advise the GP on discontinuation of therapy (this is not necessarily contemporaneous with cessation of growth in stature).

GP Responsibilities

- Prescribe somatropin as indicated by the specialist.
- Prescribe an appropriate supply of cartridges per prescription; pack sizes are small and depending on the dose required multiple packs need to be issued.
- Prescribe needles, needle clipping device (e.g. BD safe-clip) and 1L sharp bin.
- Advise the specialist if non compliance is suspected.
- Inform the specialist of new prescriptions that may interfere with treatment e.g. steroids.
- Identify and report adverse drug reactions to initiating specialist and usual bodies e.g. CHM.

Adverse Effects, Precautions and Contraindications

- Do not use if evidence of active malignancy: use with caution if history of malignant disease.
- Use after renal transplantation may be considered if risks outweigh benefits.
- Pregnancy: Patients discovered or planning to become pregnant should interrupt therapy and be referred to the initiating specialist.
- Diabetes: GH is an insulin antagonist and can therefore unmask latent diabetes. Adjustment of antidiabetic therapy may be necessary in patients with established diabetes.
- Headaches have been reported early in treatment which usually resolve. Intracranial hypertension is rare, but any patient with severe persistent headache should be referred for early review.
- Disorders of the epiphysis: may be used with caution. Slipped upper femoral epiphysis may occur in overweight teenagers on GH treatment.
- Peripheral oedema is common but tends to decrease as therapy progresses. Incidence is reduced if lower doses are used initially.
- Carpal tunnel syndrome, arthralgia and myalgia in adults: usually dose dependant and transient.

Drug Interactions

Oestrogens: increased doses of somatropin may be required.
Corticosteroids (above replacement doses): the growth promoting effect of somatropin may be inhibited.

Communication

For any queries relating to this patient's treatment with somatropin, please contact the specialist named at the top of this document.

This information is not inclusive of all prescribing information and potential adverse effects. Please refer to the full prescribing data SPC or the BNF.

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