



## Growth Hormone (GH) Subcutaneous Injection Guidelines

GH treatment can only be given as a subcutaneous injection and is a long term commitment for those with growth hormone deficiency.

There is a need for educators to possess the knowledge and skills in relation to subcutaneous injection techniques as this will aid adherence and the success of treatment.

The following practical guidelines and recommendations have been reviewed by nurses of the APEG child and adolescent group (CAG) sub-committee.

Correct and comfortable subcutaneous administration requires consideration of:

### Injection sites:

- Abdomen, not routinely used, except for older children doing own injection
- Buttocks, commonly used for toddler group
- Thighs: Commonly used but requires caution as risk of IM injections is higher.
- Back of upper arms: Caution as risk of IM injections is higher
- Do not inject through clothing

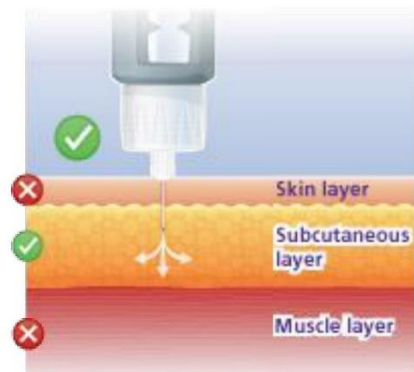
### Needle length and angle

- Recommend 4mm needles for arms, 4 or 5 mm needles for all other sites <sup>(1-3)</sup>
- If using 4mm needle a pinch/skinfold is generally not required <sup>(1,4,5)</sup>, unless using arms or in small/thin children (as a guide <6 years old)
- 90 degree angle <sup>(1,2,3)</sup> with 4 and 5mm needles is recommended
- If needles >6mm are used, skinfold/pinch is required

### Frequency and timing:

- Daily GH injections should be given in the evening to mimic physiological GH profile.
- For those on weekly GH injections, it should be given on the same day each week
- Children with Biochemical Growth Hormone Deficiency (BGHD) must have injections every night, unless directed otherwise by treating physician.
- GH can be administered 6 or 7 nights per week in children with other conditions, according to the direction of the treating specialist.
- Administration of injections once the child is asleep should be discouraged.

GH injections should be given directly into the subcutaneous (s/c) fat layer using 4 or 5mm needles as shown here.



### Rotation

- Regular rotation of injection sites is required. This can be within the same injection sites (eg. Rotating around the thigh sites on both sides), or moving between different injection sites according to the individual's preference

This can be nightly or weekly depending on the patient/family preference and the health professionals advice Site rotation grids may be useful for families who have difficulty remembering.



#### **Patient or Parent Education:**

- Education should be provided by a qualified nurse at the treating centre OR
- If education is to occur in the community there must be a GP, a GP practice nurse, or other qualified healthcare professional present, who has reviewed instructions from the treating physician or the requesting hospital.
- Telehealth education may be provided for families in remote settings but should be done by a qualified nurse with video injection information where available.
- Ongoing follow up with telehealth can assist in some situations.

#### **Other GH treatment Information:**

- Families need specific information about who to contact and how if there is concern about side effects or other issues
- APEG GH side effects information sheet
- Details about the PBS GH program and application information Brochure
- Pharmaceutical company information
- The child's treating clinician / hospital may also include specific information.

#### **Remember**

Clear and concise information for families at the start of treatment will aid adherence and the success of treatment.

#### **References:**

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2. Lo Presti D, Ingegnosi C; *Paediatric Diabetes* 2012 May  
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3. Soo Ting Joyce Lin et al;  
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