

Conditions requiring growth hormone therapy

There are several US-FDA approved conditions requiring growth hormone therapy:

Growth hormone deficiency
Prader willi syndrome
Idiopathic short stature
Turner syndrome
Noonan Syndrome
SHOX haplo-Insufficiency
Chronic Renal Insufficiency

What is Growth Hormone Treatment?

Growth hormone (GH) treatment, also known as growth hormone therapy, is a medical intervention used to treat growth hormone deficiency (GHD) and certain other growth-related disorders. Growth hormone is a natural hormone produced by the pituitary gland, a small gland located at the base of the brain. It plays a crucial role in regulating growth, metabolism, and body composition.

Growth hormone therapy involves the administration of synthetic growth hormone, typically in the form of daily injections, to replace or supplement deficient levels of growth hormone in individuals with GHD. The goals of growth hormone therapy may include:

1. **Stimulating linear growth:** Growth hormone therapy is primarily used to promote linear growth in children with GHD. By stimulating the growth plates at the ends of long bones, growth hormone helps increase the rate of bone growth and overall height.
2. **Improving body composition:** Growth hormone therapy can help increase lean body mass, decrease fat mass, and improve body composition in individuals with GHD. This can lead to improvements in muscle strength, physical fitness, and metabolic health.
3. **Enhancing bone mineral density:** Growth hormone therapy may improve bone mineral density and reduce the risk of osteoporosis in individuals with GHD, particularly during adolescence when bone growth is most active.
4. **Optimizing adult height:** In children with GHD, growth hormone therapy can help achieve a near-normal adult height by promoting catch-up growth during the growing years.
5. **Improving quality of life:** Growth hormone therapy may also have positive effects on overall well-being, including increased energy levels, improved mood, and enhanced quality of life.

Growth hormone therapy is typically initiated in childhood or adolescence when growth potential is greatest and continued until adult height is reached. Treatment is individualized based on factors such as age, weight, severity of GHD, and response to therapy. Close monitoring by healthcare providers is essential to assess growth progress, adjust treatment as needed, and monitor for any potential side effects or complications.

Overall, growth hormone therapy is considered safe and effective for individuals with GHD when prescribed and monitored by qualified healthcare professionals. It has significantly improved outcomes and quality of life for children and adults with growth hormone deficiency.

What Are the Side Effects of Growth Hormone Treatment?

Growth hormone (GH) treatment is generally safe and well-tolerated, like any medication, it can have potential side effects. It's essential for healthcare providers and individuals receiving GH treatment to be aware of these potential side effects and monitor for them closely. Some common side effects of growth hormone treatment may include:

1. Injection site reactions: usually rare
2. Fluid retention:
3. Musculoskeletal discomfort:
4. Headaches:
5. Increased intracranial pressure:
6. Slipped Capital Epiphysis
7. Scoliosis

It's essential for healthcare providers to monitor individuals receiving growth hormone therapy regularly for any signs of side effects or complications. Most side effects are mild and transient, and they often resolve with adjustments to the treatment regimen. Overall, the benefits of growth hormone therapy in promoting growth and development typically outweigh the risks of side effects when used appropriately.

How is the Dose of Growth Hormone Determined?

The pediatric endocrinologist calculates dose of growth hormone (GH) for growth hormone deficiency (GHD) based on several factors, including the child's age, weight, degree of GH deficiency, and response to treatment. Initially GH dose based on weight and disease condition which may need to decrease or increase based on clinical response and IGF-1 levels. Factors deciding GH dose are:

- GH deficiency vs growth hormone resistance:
- Weight-based dosing:
- Target height:
- Titration
- Monitoring IGF-1 Levels
- Target height
- Age related adjustment
- Adherence to treatment