



Managing Growth Hormone Deficiency

Growth hormone deficiency (GHD) is a condition in which the body does not make enough growth hormone. GHD can occur in both children and adults. GHD treatment often involves injections of growth hormone. The goal of treatment is to replace the lacking natural growth hormone. This can help children grow taller. It can also build muscle, build stronger bones, increase energy and distribute body fat. The length of treatment will vary depending on how well you respond to the medication. Some patients need to continue injections for multiple years. You shouldn't take growth hormone if you've had tumors or cancer, if you're seriously ill, have multiple injuries, or severe breathing problems unless your physician determines this is appropriate.



Medication can make each patient feel differently. If you experience side effects tell your doctor. You may need your dosage changed. The following are some common side effects you may experience with growth hormone therapy along with tips to manage GHD. Your symptoms and side effects may vary from this list.

Headache

GHD treatment may cause headaches.

- ▶ Ask your doctor if you are able to take pain relievers and which ones are best for you.
- ▶ Drink plenty of water.
- ▶ If you get a headache, keep the lights dim and avoid loud noises and strong smells. Rest and try to relax until the headache goes away.
- ▶ Seek medical attention if these tips don't relieve your headache or if the headache is severe.

Joint Pain and Muscle Aches

You may experience joint pain and muscle aches as a result of your GHD therapy.

- ▶ Ask your doctor if you are able to take pain relievers and which ones are best for you.
- ▶ Take a warm bubble bath.
- ▶ Apply a hot or cold pack.
- ▶ Consider getting a massage from a massage therapist.

Growth Hormone Medication

- ▶ Keep the medication refrigerated.
- ▶ When traveling, keep it in a cooler but do not place it directly in ice.
- ▶ Give the medication at night, within an hour of sleep.
- ▶ Do not make up missed injections. Ask your pharmacist how to proceed with late or missed doses.
- ▶ Rotate injection sites.
- ▶ Document the time and site of injections.

Injection Techniques

When you start growth hormone injections, you will receive training on how to give yourself or your child injections. Standard injection techniques for needles/ syringes include:

1. Clean the injection site with an alcohol swab.
2. Let the skin dry for about 30 seconds.
3. Take a deep breath to relax.
4. For a needle, insert it using a quick dart-like motion.
5. Inject the medication.
6. Wait to withdraw the needle until all of the medication is injected.
7. Once you withdraw the needle, gently apply pressure with a sterile swab.
8. Apply a Band-Aid.
9. Properly dispose of used needles/syringes/pens.
10. Document the injection time and site.

If you have questions about your injection technique, be sure to ask your pharmacist



FAQs

What is growth hormone deficiency (GHD)?

Growth hormone is made by the pituitary gland, which is in the brain. Growth hormone is important in child development. It also helps maintain muscle and bone mass, decreases fat tissue and may influence cholesterol. GHD is when your body doesn't create enough growth hormone. GHD can occur in both children and adults.

What are the symptoms of GHD?

Symptoms in children include:

- Shorter and younger looking than peers
- Delayed puberty
- Increased fat around the face and stomach
- Mild chubbiness
- Slow hair growth

Symptoms in adults include:

- Anxiety and depression
- Trouble thinking
- High cholesterol
- Reduced bone density
- Weight gain around waist
- Decreased muscle mass and strength
- Baldness (in men)
- Dry skin
- Fatigue
- Hot and cold sensitivity
- Sleep problems

What kind of treatments are there?

GHD treatment involves injections of growth hormone. The goal of this treatment is to replace the natural growth hormone you are lacking. It can build muscle, increase energy, build stronger bones and distribute body fat. It can also help children grow taller. You shouldn't take growth hormone if you've had tumors or cancer, if you're seriously ill, have multiple injuries or severe breathing problems unless your physician determines this is appropriate.

What are the outcomes of treatment?

Growth hormone treatment replaces the natural growth hormone you are lacking. It can take some time before you see the results of growth hormone therapy. Length of treatment will vary depending on how well you respond to the medication. Some patients need to continue injections for multiple years.

Are there side effects from the medication?

Medication can make each patient feel differently. If you experience side effects tell your doctor. You may need your dosage changed.

Common side effects of GHD treatment include:

- Swelling
- Headaches
- Numbness
- Joint and muscle aches

How do I manage these side effects?

Amber Specialty Pharmacy works with patients to help manage any side effects. It's important to discuss any side effects that you experience with your pharmacist or doctor early.

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Amber Specialty Pharmacy is here to help.

We offer guidance and support through our dedicated team of healthcare experts. From the beginning, we help you with the enrollment process and review your insurance coverage. We explore financial assistance opportunities to help you lower your medication costs whenever possible. Our pharmacists review your prescriptions with you - including how to take your medication and manage any side effects. Pharmacists are available 24/7 to assist you when you have questions. Our Registered Nurse and Registered Dietitian offer personalized consultations to assist you with any medically-based questions and nutritional care. We stay in touch with you regularly to remind you when it is time to refill your prescriptions. We are always here to help.

Additional Resources:

Human Growth Foundation – ghfound.org
Pituitary Disorders Education & Support – pituitarydisorder.net
Endocrine Society – endocrine.org
EndocrineWeb – endocrineweb.com
Hormone Health Network – hormone.org
The MAGIC Foundation – magicfoundation.org

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