

Patients:  
Child to Adult



Knowledge  
to live by

Models throughout are used for illustrative purposes only.



Experts recommend waiting as little time as possible between ending childhood treatment and testing for possible adult treatment.

## Patients: child to adult

### **“I thought I was done with treatment.”**

For many years, children with growth hormone deficiency (GHD) have received treatment in order to reach a greater height as adults. Physicians, parents, and children believed that when growth stopped, treatment was no longer needed.

More recent experience shows that many people who had childhood GHD continue to need treatment as adults, because adequate levels of growth hormone are important to lifelong health.

If you've seen gradual changes in your body, energy, or mood since ending hormone therapy, too little growth hormone may be the reason. If you've stopped taking growth hormone without a full medical re-evaluation, now is the time to take action.

This brochure is designed to help you understand why growth hormone treatment continues to be an essential part of healthy living for many adults. You'll also find questions to discuss with your doctor that may help you learn about some options to help understand the benefits of daily injections.

## Treating GHD in adulthood: why do adults need growth hormone?

Hormones are chemical messengers that have dramatic effects on all kinds of body functions, from blood pressure, to metabolism, to bone strength.

Throughout your life, growth hormone plays a critical role in your health. It helps regulate how your body makes and uses energy, and helps keep your bones and heart healthy.

Without treatment, people whose bodies continue making too little growth hormone as adults tend to become relatively obese and lose muscle mass. They also develop cardiovascular risks and have a higher frequency of bone fractures.



## The importance of making a good transition

Experts agree that continuing care is important when people who have had GHD as children become young adults. Ideally, people in their late teens switch from pediatric to adult endocrinologists and have their growth hormone production measured soon after stopping growth hormone treatment.

## Signs and symptoms to look for

People who continue with growth hormone treatment may never experience the signs and symptoms of GHD. However, if you have stopped treatment, here are some things to look for:

- Body changes over time, including:
  - > Increased fat, especially around the waist and in the face
  - > Decreased muscle mass
- Feeling tired and easily fatigued
- Other gradual changes that are not visible can include:
  - > Thinning bones with an increased risk of fractures
  - > High cholesterol, especially LDL (the “bad” cholesterol)

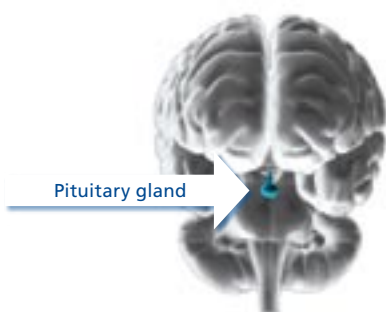
## How do I know I still need GH treatment?

The cause of your childhood hormone deficiency will determine how the doctor approaches your diagnosis and care as an adult.

If your lack of growth hormone as a child did not have a specific known cause (“idiopathic GHD”), it’s possible that growth hormone levels may return to normal and ongoing treatment won’t be needed.

However, a return to normal hormone levels is highly unlikely if GHD occurred because you lacked several pituitary hormones or if you had:

- A tumor or other brain injury
- Pituitary surgery
- Radiation treatment in the area of the pituitary or hypothalamus





After learning about your complete medical history, the endocrinologist will look for physical signs and symptoms of GHD, such as those described on page 5.

Blood tests that may help with a diagnosis include:

- Cholesterol levels
- Complete blood count (CBC) with differentials
- Tests of various hormone levels, including thyroid hormones and testosterone or estrogen
- Measurement of IGF-1 (Insulin-like Growth Factor 1), which is made by the liver in response to growth hormone in the body
- A special kind of X-ray called a DEXA scan to measure bone strength and health

You may need a stimulation test to see how much growth hormone is being produced by your pituitary gland now.

## Why is it important to treat GHD?

### **GHD treatment: a commitment to health...**

If you continue to have GHD as an adult, effective treatment can make an important difference in your health. It's a big commitment, but it's worth it.

## Help is available

As you know, medications for GHD are expensive and they usually require pre-approval from insurance companies. That's why many companies that make GHD treatments have programs to help you and your doctor go through every step of the process.

**See page 11 for more places to turn for information and support.**

## Questions to discuss with your doctor

- Do I still need growth hormone treatment?  
If yes, why?
- What benefits can I hope to achieve with treatment?
- How long may it take to see results?
- Are all growth hormone medications the same?
- What is the easiest way for me to give myself growth hormone?
- Will the medication sting?
- How do I take growth hormone when I travel?
- What side effects may occur and how do we manage them?
- How long will I need to remain on treatment?
- What other medications am I taking that might affect my growth hormone dose?
- How do I fill my prescription?
- Which options or features are important to me when choosing a growth hormone device?
  - > A needle hider (so I don't have to see the needle when I have an injection)
  - > Disposable
  - > Loading medication is not required
  - > Prefilled cartridge
  - > Reconstitution (adding sterile liquid to a powder) not required
  - > Multiple doses in one pen
  - > Push-button injecting
  - > Storage flexibility (no refrigeration)



## **ADDITIONAL RESOURCES**

**You can also find information and support from these organizations:**

### **The Hormone Foundation**

The public education affiliate of The Endocrine Society

8401 Connecticut Avenue, Suite 900

Chevy Chase, MD 20815-5817

Tel: 1-800-HORMONE (467-6663)

[hormone.org](http://hormone.org)

### **Human Growth Foundation**

997 Glen Cove Avenue, Suite 5

Glen Head, NY 11545

Tel: 1-800-451-6434

[hgfound.org](http://hgfound.org) | [hgf1@hgfound.org](mailto:hgf1@hgfound.org)

### **The MAGIC Foundation**

6645 W. North Avenue

Oak Park, IL 60302

Tel: 1-800-3MAGIC3 (362-4423)

[magicfoundation.org](http://magicfoundation.org)

### **Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)**

National Institutes of Health, DHHS

31 Center Drive, Bldg. 31

Rm. 2A32 MSC 2425

Bethesda, MD 20892-2425

Tel: 301-496-5133

[nichd.nih.gov](http://nichd.nih.gov)

### **Pituitary Network Association**

P.O. Box 1958

Thousand Oaks, CA 91358


Tel: 805-499-9973

[pituitary.org](http://pituitary.org)

Regional Support Groups at:

[pituitary.org/support](http://pituitary.org/support)

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