

## Patient information

### **Growth Hormone Deficiency**

Diabetes and Endocrinology Department

#### **What is Growth Hormone?**

Growth hormone (GH) is one of several hormones (chemical messengers) produced by your pituitary gland. This is a small gland located at the base of the brain, which releases several hormones, including GH directly into your bloodstream. GH is released in bursts through the day and night, with most being produced at night.

GH is needed for normal growth in children. In adults, GH is needed to help maintain general well-being and the proper amount of body fat, muscle and water. GH also influences the strength of your bones, lipid levels (blood fats) and how your heart functions.

#### **What causes Growth hormone deficiency?**

GH deficiency can have many causes. The most common cause of GH deficiency in adults is a benign (non-cancerous) tumour of the pituitary gland. Either the tumour or treatment (surgery or radiotherapy) for it can cause growth hormone deficiency. Growth hormone deficiency can also happen if you have a tumour or injury to other areas of the brain close to the pituitary gland.

Occasionally accidents or problems with the blood supply to the pituitary gland can lead to GH deficiency. People, especially children who have had treatment for diseases such as leukemia or brain tumours may become deficient of GH in later life.

In some cases, no causes for GH deficiency can be identified.

#### **How is Growth hormone deficiency diagnosed?**

Because of the way that GH is produced by the pituitary gland, GH deficiency cannot be confirmed by a single blood test.

Your Endocrine doctor will refer you for testing of your pituitary gland to find out if you are growth hormone deficient or not. The tests are known as dynamic function tests and are performed at the Royal Liverpool University Hospital. The tests involve you having blood samples taken before and after an injection of various hormones. The blood samples are taken every 30 minutes over two to four hours. Your doctor will review the results of these tests and make a decision on your treatment needs.

Without these tests we will not be able to confirm your diagnosis and this may make treating your symptoms difficult.

## **What happens to me without Growth hormone?**

### **All patients are different, but common symptoms of GH deficiency include:**

- Excessive tiredness, sometimes with a strong need to sleep during the day.
- Lack of interest in life in general, including hobbies and occupation.
- Feelings of anxiety, depression or sadness.
- Impaired quality of life, measured using a questionnaire designed for patients with growth hormone deficiency.
- Increase in weight with more fat around your waist.
- Decrease in muscle mass leading to reduced stamina and strength.
- Higher risk of illness due to cardio vascular disease (heart attacks and strokes).
- Higher risk of broken bones due to loss of bone strength (osteopaenia / osteoporosis).
- Abnormalities in the fats (lipids / cholesterol) in the blood which can also lead to increase risk of heart attack or stroke.
- Thin and dry skin.
- Reduced memory and concentration.

## **How is Growth hormone deficiency treated?**

Growth hormone is given through daily injections. Please refer to the separate information leaflet, entitled, Adult Growth Hormone Replacement Therapy (PIF1015)

## **Feedback**

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

## **Further Information**

**Please feel free to contact the Endocrine Specialist Nurses with any questions you may have. There is an answer machine where you can leave your name and contact details. We will return all calls.**

### **The Endocrinology Specialist Nurses**

**Tel: 0151 706 2417**

**Text phone number: 18001 0151 706 2417**

## Related Patient information leaflets:

- The Pituitary Gland (PIF 1024)
- Adult Growth Hormone Replacement Therapy (PIF 1015)

## Useful addresses:

**National Support Office  
The Pituitary Foundation  
86 Colston Street  
Bristol  
BS1 5BB  
Tel: 0117 370 1320  
Email: [helpline@pituitary.org.uk](mailto:helpline@pituitary.org.uk)  
[www.pituitary.org.uk](http://www.pituitary.org.uk)**

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