

Growth Hormone Deficiency in Adults



About Us

The Child Growth Foundation (CGF) is a UK charity dedicated to supporting people living with rare child growth conditions. We provide information and support to those directly affected, their parents and the healthcare professionals who will work with them.

We also raise awareness of growth conditions among the general public and health professionals and we fund research to increase medical understanding of these conditions.

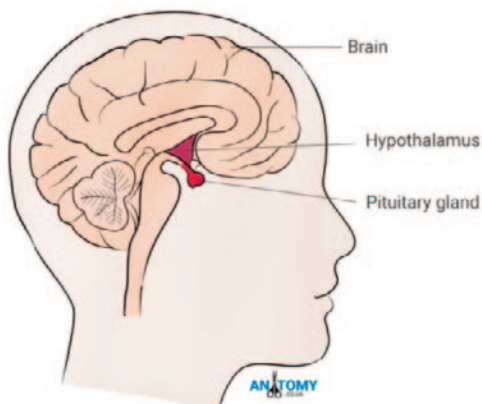
Contents

What are Hormones?	3
What is Growth Hormone Deficiency (GHD)?	4
Why Do Adults Have GHD?	4
Benefits of Treatment	5
Do All Adults With GHD Need Treatment?	7
How is GHD Treated?	8
Questions on Treatment	9
Further Support	10
Acknowledgements	11



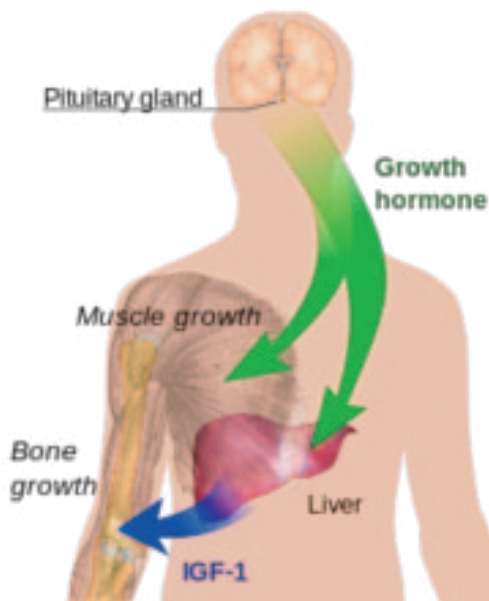
What Are Hormones

Hormones are chemicals that carry messages from one cell to another.



Growth hormone is made by the pituitary gland, which is a small gland in the brain. Another gland in the brain called the hypothalamus sends messages to the pituitary telling it to make growth hormone.

Growth hormone directly stimulates the growth of tissues and organs in the body. The liver converts it to IGF1 which promotes growth of the bones until the end of puberty when the growth plates fuse. It is also important for your heart health.





What is GHD?

Growth hormone deficiency simply means that the pituitary gland is not able to make enough growth hormone. This is often diagnosed during childhood and may be due to a problem with either the hypothalamus or the pituitary gland, or a problem with the messages between them not getting through.

It used to be thought that once children had finished growing, they didn't need growth hormone. Now we know that the amount of growth hormone needed varies during a person's life. Children and teenagers need more than adults do. The levels fall gradually over the years as the person gets older.

Why Do Adults Have GHD?

Many adults with growth hormone deficiency are those who were diagnosed when they were children. Once children have finished growing their doctors will arrange tests, to help find out how much growth hormone they are able to make.

As adults need less growth hormone than children, the expected levels achieved on testing are lower. Many young people who received growth hormone treatment in childhood are able to generate these lower levels and treatment is discontinued. However, if an adult is not able to reach the level on testing, they are considered to have adult growth hormone deficiency.

Adults may also develop growth hormone deficiency due to the effect of, or treatment for, a tumour in the area of the pituitary gland or hypothalamus or as the result of a head injury.



The pituitary gland also makes several other hormones, which are very important for health and feeling well. It is important to make sure that these hormones are monitored and kept at the right levels before considering if growth hormone treatment is needed.

What Are The Benefits of Growth Hormone Treatment in Adult Life

There are several benefits listed below. You may not notice them all but they are all very important for health.

Quality of life and general well being

Adults with growth hormone deficiency often feel less well and positive than others. They have been found to have a lower quality of life with symptoms that may include:

- Low levels of energy
- Poor general health
- Difficulty coping
- Increased anxiety

This can lead to a reduced feeling of well-being, feeling socially isolated, loneliness and depression. These symptoms can improve or even disappear during treatment with growth hormone. However, as 1 in 4 adults will experience mental health problems, it is important not to always assume that psychological symptoms are due to growth hormone deficiency. Talking therapies, counselling and in some cases more specialised psychology/psychiatry support may be helpful.

Blood sugar levels

If a person hasn't eaten for a long time, growth hormone is important to



help the body keep the blood sugar at normal levels.

Some adults with growth hormone deficiency may experience symptoms of a low blood sugar (hypoglycaemia) when they have not eaten for a long time – such as overnight, or if fasting for religious reasons. They may have a headache, feel irritable and be sweating when the room is not hot.

This can also happen after drinking alcohol as this also reduces blood sugar levels – some people find they have a ‘hangover’ after only one alcoholic drink!

Treatment with growth hormone can help prevent low blood sugar levels.

Weight control

Some people with growth hormone deficiency find they gain weight easily. Treatment with growth hormone does not result in weight loss but the increased energy and the effect on how a person feels can help increase activity/exercise.

Growth hormone also has an impact on the distribution of body fat, reducing this from around the tummy.

Bone Quality

Growth hormone is important for increasing the strength of bones. People with growth hormone deficiency may develop osteoporosis (thin or brittle bones that break more easily). Osteoporosis is a painful condition resulting in reduced mobility and disability. Treatment with growth hormone can help prevent this.

Muscle strength

Adults with growth hormone deficiency have less muscle and more fat. Their muscles are also smaller and less strong. Treatment with growth hormone will restore a more normal balance of fat and muscle mass.



The muscles will also be stronger. This helps the adult to build up the amount of exercise they are able to do and increase their fitness and health.

Cardiovascular disease

Adults with growth hormone deficiency are more likely to develop heart disease. Treatment with growth hormone will reduce this risk as it increases the strength of the heart pumping.

Cholesterol levels

Adults with growth hormone deficiency have higher levels of cholesterol in the blood. This, together with the increased amount of fat around the tummy (abdominal fat), increases the risk of heart disease and strokes.

Treatment with growth hormone reduces the risk by lowering the levels of cholesterol and abdominal fat.

Do Adults With GHD Need Treatment?

The benefits of treatment for adults with very low levels of growth hormone are often very obvious – many will feel so much better than they did before that they are very happy to continue on treatment. However, some young people who have had growth hormone treatment as a child, find they feel no different when treatment is stopped once they have finished growing. It can be hard for the young person to understand and accept that they may benefit from carrying on with growth hormone treatment as an adult.

Discussion with an endocrinologist is essential to help the young person understand their individual risks from having growth hormone deficiency. They can then make an informed decision about having growth hormone treatment as an adult.



How is GHD Treated?

Treatment of growth hormone deficiency is by giving a daily dose of growth hormone to replace their missing hormone. This is given as a daily injection into the fat just under the skin (subcutaneous). The usual places to give these are the thighs, abdomen or upper arms. Most people give the injection in the evening.

The growth hormone used is made in a laboratory and is an identical copy of the natural human growth hormone. There are several companies that make growth hormone that can be prescribed in the UK. There is no difference in how well each of the growth hormone works, but there are differences in the injection devices and price.

The following brands (listed in alphabetical order) are licensed for treatment of adult growth hormone deficiency in the UK:

Brand Name	Pharmaceutical Company
Genotropin	Pfizer
Norditropin	Novo Nordisk
Nutropin AQ	Ipsen
Omnitrope	Sandoz
Saizen	Merck Serono

As growth hormone is very expensive the choice of brand available in many areas is limited. There is not always a choice of devices available for adults and if you had treatment as a child your prescription may change. You can find out more about this by asking your doctor or nurse specialist.



Questions Around GHD Treatment

Are there any side effects from growth hormone treatment?

Side effects are unusual as the medication is simply replacing what the body is unable to produce itself. However, if the dose is too high, this may cause fluid retention. This can be seen as swelling of the hands and feet/ankles. This needs to be reported to your endocrine team and settles quickly when the dose is reduced.

Does growth hormone have to be given by daily injection?

Growth hormone is a protein and if swallowed would be digested in the stomach. At the moment the only way this can be given is by daily injection. There is work in progress trying to develop treatment that can be given weekly or monthly – but this will still be by injection.

Will growth hormone make me grow?

The growth plates in bones fuse at the end of puberty, so once this is complete then no more growth is possible. If you are not sure about this then please ask your doctor or nurse.

Will growth hormone treatment help me to lose weight?

Growth hormone helps increase muscle mass and reduce fat mass around the body – especially around the abdomen. It will not automatically cause weight loss. Like other adults you will need to increase your exercise and reduce portion size to achieve this. However, the positive effects growth hormone treatment can have on mood and well-being can make it easier to stick to these new habits.

Can I drink alcohol if I am taking growth hormone?

Yes, you can drink alcohol when on growth hormone treatment. Like everyone else you should follow the national recommendations on the safe amounts to drink.



Further Support

If you are still unsure, or concerned about anything you have just read, the Child Growth Foundation operates a support service, by telephone or email, that may be able to help further.

You can email the CGF at:

info@childgrowthfoundation.org

Or call us on:

 **0208 995 0257**

Our website has further information that you may find helpful:

childgrowthfoundation.org

We also manage a number of closed patient support groups through Facebook. Visit our main page to find out more:

facebook.com/childgrowthfoundation/

Acknowledgements

These booklets are supported through an unrestricted educational grant from Merck Serono Limited, Bedfont Cross, Stanwell Road, Feltham, Middlesex TW14 8NX.

Telephone: [020 8818 7200](tel:02088187200) Fax: [020 8818 72](tel:020881872)



Acknowledgements

Many thanks to:

PAULINE MUSSON | SALLY TOLLERFIELD | JENNY CHILD

Further Information:

If you have any questions regarding the information contained in this sheet, then please contact:

Tel: [0208 995 0257](tel:02089950257) | Email: info@childgrowthfoundation.org

REVISION DATE: 06/2019 | Review Date: 06/2021 | Version: 1.0

DISCLAIMER

We have taken every care to ensure the accuracy of the information contained in this publication. It is produced independently, is not influenced by sponsors and is free from endorsement. The information should not be used as a substitute for the advice of appropriately qualified professionals, if in any doubt please seek advice from your doctor or legal professional.

FEEDBACK

Your feedback helps us to ensure we are delivering information to the highest standard. If you have any comments or suggestions, please contact us at: info@childgrowthfoundation.org

FUNDING

The Foundation funds research into many aspects of growth conditions such as the causes, effects, treatments and psychological impact. It also offers essential advice and experience to parents of children who have been diagnosed with growth problems. The annual convention provides a great forum for people to get together to discuss problems and solutions with others in a similar position. It also provides a chance to meet and learn from the doctors and professors dealing with child growth in the UK.

The CGF is entirely self-sufficient and is an independent charity. It relies on donations and membership subscriptions to keep going. If you have found this information leaflet helpful, please consider becoming a member and/or making a donation - www.childgrowthfoundation.org.



Child Growth Foundation

childgrowthfoundation.org

info@childgrowthfoundation.org

0208 995 0257



@childgrowthfoundation



@CGFCharity



childgrowthfoundation

Registered Charity: 1172807