Patient information

Pituitary Gland

Diabetes and Endocrinology Department

What is the Pituitary gland?

The pituitary gland is a small ‘pea’ size structure. It hangs from a stalk at the base of your brain and is protected by a bony cup known as the ‘fossa’.

The pituitary gland is divided into two parts, both of which produce hormones. Some of these hormones have an action of their own while others act on endocrine glands located around the body.

What is a hormone?

Hormones are chemical messengers, which are released by endocrine glands. They regulate the way in which your body works.

What are endocrine glands?

These are the glands situated around your body, which release hormones. Hormones released by the pituitary gland control the glands.

What are the hormones produced by the pituitary gland?

The pituitary gland produces:

- Growth hormone (GH).
- Prolactin.
- Thyroid stimulating hormone (TSH).
- Adrenocorticotrophic hormone (ACTH).
- Anti-diuretic hormone (ADH).
- Leuteinising Hormone and Follicle Stimulating hormone (LH/FSH).

What do these hormones do?

Growth hormone (GH): in children is needed for growth and development at a normal rate. In adults, this hormone helps maintain well-being and quality of life. It plays an important role in balancing the amount of body fat and lean muscle.

Too little can lead to you feeling easily tired and needing to sleep during the day. You may also have loss of concentration with reduced quality of life. This is a recognised condition known as Adult Growth Hormone Deficiency.

Too much GH causes the condition Acromegaly. You may have enlargement of your hands and feet with an increase in ring size.

Separate information leaflets are available about both conditions.

TSH: works on the Thyroid gland to produce the hormone Thyroxine. You need this hormone to keep active and for growth and repair. Not enough thyroxine would lead to you feeling tired and listless. You may have dry skin and hair and find that your weight increases even though your appetite hasn't.

ACTH: this hormone works on the Adrenal glands to produce the hormone Cortisol. Without enough cortisol you will feel generally unwell. You may experience dizziness and tiredness.

Too much ACTH may cause skin changes and you may look almost sun-tanned.

Too much cortisol causes Cushing's disease, leading to increased weight, roundness of the face and an increase in body hair and you may eventually become so weak that getting out of a bed or chair is difficult. A separate information leaflet on this condition is available.

LH/FSH: these hormones are responsible for producing your sex hormones. In women the production of oestrogen and progesterone is regulated. For men it is testosterone production that is controlled.

Reduced amounts of these hormones in women cause loss of interest in sex and disruption of periods with fertility problems.

For men there is also a loss of interest in sex, with impotence and fertility problems. Loss of body hair may also happen, with men shaving less often.

Both sexes may experience mood changes and feel generally unwell.

Prolactin: this hormone is produced in small amounts only. Women need it when pregnant or breastfeeding. You are unlikely to suffer any ill effect from having too little of this hormone.

Too much of this hormone can lower the amounts of other hormones being made by your pituitary gland.

This may mean that you do not make enough of important hormones like thyroxine and cortisol and so you can become ill. A separate information leaflet on this condition is available

Too much prolactin can lead to a milky discharge from your breasts; this happens more commonly in women but men can also have this. Men may find they begin to develop small breasts.

ADH: you need this hormone to help control the amount of urine your kidneys produce. Without it you will have a constant thirst and pass large amounts of urine. This will continue even through the night, and the amount you drink can run into many litres each day. This condition is known as Diabetes Insipidus and there is a separate information leaflet on this.

Why does my pituitary gland fail to work properly?

Usually this is due to a benign (non cancerous) growth or tumour, which may have existed for many years before causing a problem. An important point is that these growths are very rarely cancerous.

The growth or tumour may produce too much of one or more of the hormones listed above which would then cause the problems outlined.

It may not produce any hormone at all but because of its size may interfere with the production of hormones and so cause problems in that way. It may also grow so big it presses on the nerves that control your sight. This can mean you lose sight at the edges of your vision, so may bump into things more frequently.

What will I feel like if my gland doesn't work properly?

Headaches are a very common symptom of a pituitary tumour. You can also feel generally unwell and very tired for no obvious reason.

It is possible for your eyesight to be affected, but this depends on the size of the tumour. This is because the tumour has become big enough to press on the nerve, which runs to your eyes (the optic nerve).

How are these growths or tumours treated?

The most common form of treatment for a pituitary tumour is surgery and is explained in more detail on a separate information leaflet. Radiotherapy may be used after surgery if the medical team feels it is needed; again this is explained more fully in a separate leaflet. Tablets can treat some tumours successfully, especially those producing prolactin. All options about treatment will be discussed with you at the outpatient clinic.

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:

- **Acromegaly (PIF 501)**
- **Cushing's disease (PIF 994)**
- **Cranial Diabetes Insipidus (PIF 1017)**
- **Growth hormone deficiency (PIF 1018)**
- **Prolactinoma (PIF 1014)**
- **Trans-sphenoidal surgery (PIF 249)**
- **Pituitary radiotherapy (PIF 1062)**

Useful addresses:

National Support Office
The Pituitary Foundation
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BS1 5BB
Tel: 0117 370 1320

Email: helpline@pituitary.org.uk
www.pituitary.org.uk

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