

Hormones and the endocrine system

What is a hormone?

Hormones and the endocrine system

How are hormones transported around the body?

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Name the six endocrine glands you need to know.

Hormones and the endocrine system

Which hormone is made by the thyroid gland?

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Which hormone does the pancreas make to lower blood glucose?

Hormones and the endocrine system

Which hormones do the ovaries produce?

Hormones and the endocrine system

Where is the pituitary gland and what does it do?

Hormones and the endocrine system

Which hormone do the testes produce?

In the blood (plasma), from the endocrine gland to the target organs.

A chemical messenger made by an endocrine gland and carried in the blood to its target organs.

Thyroxine.

Pituitary gland, thyroid gland, pancreas, adrenal glands, ovaries and testes.

Oestrogen and progesterone.

Insulin.

Testosterone.

At the base of the brain. It releases hormones that control other glands and organs.

Hormones and the endocrine system **Higher tier**

Which gland makes adrenalin and what is it for?

Hormones and the endocrine system **Higher tier**

List the four effects of adrenalin.

Hormones and the endocrine system **Higher tier**

How does adrenalin raise blood sugar level?

Hormones and the endocrine system **Higher tier**

What does thyroxine control?

Hormones and the endocrine system **Higher tier**

Put in order: thyroxine low, TSH, TRH, thyroxine made.

Hormones and the endocrine system **Higher tier**

What happens when thyroxine levels are normal?

The menstrual cycle and fertility control

Describe menstruation in the menstrual cycle.

The menstrual cycle and fertility control

Around which day does ovulation happen, and what is it?

Increased heart rate, increased blood pressure, increased blood flow to the muscles, and raised blood sugar level.

The adrenal glands. Adrenalin prepares the body for fight or flight.

Metabolic rate, as an example of negative feedback.

It stimulates the liver to change glycogen into glucose.

Thyroxine inhibits the release of TRH and the production of TSH.

Low thyroxine, TRH from the hypothalamus, TSH from the pituitary, thyroid makes thyroxine.

Around day 14. An egg is released from an ovary.

Around days 1 to 5. The uterus lining breaks down and is lost through the vagina.

The menstrual cycle and fertility control

What is the role of oestrogen in the menstrual cycle?

The menstrual cycle and fertility control

What is the role of progesterone in the menstrual cycle?

The menstrual cycle and fertility control **Higher tier**

What does FSH do?

The menstrual cycle and fertility control **Higher tier**

What does LH do?

The menstrual cycle and fertility control **Higher tier**

How does high oestrogen affect FSH and LH?

The menstrual cycle and fertility control **Higher tier**

How does progesterone affect FSH and LH?

The menstrual cycle and fertility control **Higher tier**

Why does menstruation happen?

The menstrual cycle and fertility control

How does hormonal contraception prevent pregnancy?

It maintains the lining of the uterus.

It causes repair and growth of the uterus lining.

Causes ovulation.

Causes an egg to mature in the ovary and stimulates the ovaries to produce oestrogen.

It inhibits them, so no more eggs mature.

It inhibits FSH and stimulates the release of LH.

It stops eggs maturing, so no ovulation, and progesterone thickens cervical mucus so sperm cannot get through.

Progesterone falls, so the uterus lining is no longer maintained and it breaks down.

The menstrual cycle and fertility control

Which hormones can hormonal contraceptives contain?

The menstrual cycle and fertility control **Higher tier**

How does the oestrogen in the pill stop eggs maturing?

The menstrual cycle and fertility control

Give two disadvantages of hormonal contraception.

The menstrual cycle and fertility control

Give two advantages and one disadvantage of condoms.

The menstrual cycle and fertility control **Higher tier**

How are hormones used in IVF?

The menstrual cycle and fertility control **Higher tier**

What is clomifene therapy?

Homeostasis and temperature control

Define homeostasis.

Homeostasis and temperature control

Why must the body keep its internal environment constant?

It inhibits the release of FSH from the pituitary gland.

Oestrogen, progesterone, or both.

They protect against sexually transmitted infections and have no hormone side effects. They can split or slip.

It does not protect against sexually transmitted infections, and it can cause side effects.

A drug for women who do not ovulate. It stimulates the release of FSH and LH.

FSH and LH are given to make several eggs mature. The eggs are fertilised outside the body.

Enzymes and cells work best in a narrow range of conditions.

Maintaining a constant internal environment in response to internal and external change.

Blood glucose and diabetes

How does insulin lower blood glucose?

Blood glucose and diabetes

Which organ detects high blood glucose and releases insulin?

Blood glucose and diabetes **Higher tier**

How does glucagon raise blood glucose?

Blood glucose and diabetes **Higher tier**

When is glucagon released?

Blood glucose and diabetes

What causes type 1 diabetes?

Blood glucose and diabetes

How is type 1 diabetes controlled?

Blood glucose and diabetes

What causes type 2 diabetes?

Blood glucose and diabetes

How is type 2 diabetes controlled?

The pancreas.

It makes cells take up glucose, and the liver converts glucose into glycogen for storage.

When blood glucose concentration is too low.

It acts on the liver, which changes glycogen into glucose and releases it into the blood.

Insulin injections, monitoring blood glucose, and controlling the carbohydrate in the diet.

The pancreas does not produce enough insulin.

Diet, regular exercise and losing weight.
Some people also need medication.

Body cells no longer respond to insulin.

Blood glucose and diabetes

How can you test simulated urine for sugar?

Blood glucose and diabetes

Write the BMI equation.

Blood glucose and diabetes

How do you calculate waist:hip ratio?

Blood glucose and diabetes

Does a correlation between BMI and type 2 diabetes prove cause?

$$\text{BMI} = \text{mass (kg)} \div \text{height (m)}^2$$

Add Benedict's solution and heat in a hot water bath. Blue turns green, yellow, orange or brick red if sugar is present.

No. Other factors may be involved, and BMI does not show fat compared with muscle.

Waist circumference $\div$ hip circumference.