

5.3.1 Human endocrine system

AQA GCSE Biology (Higher)

Question and answer notes

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How to use these notes

These notes cover everything you need to know for this part of the specification. They have been written in question-answer format to make them easier for you to study from.

In order to study successfully, I recommend you do the following for each question and answer:

- Read it carefully and make sure you **understand** it.
- **Memorise** the answer.
- **Practice** applying your understanding to past exam questions.

A good way to memorise information is to use **retrieval practice**. This is when you practise retrieving information from your memory. You could do this by making a flashcard for each question with the question on one side and the answer on the other. Or you could use a flashcard app. Alternatively, use a sheet of paper to cover up the answer so you can only see the question. Try to answer the question and then check how you did.

You should practise retrieving each answer from your memory until you can do it perfectly. Even once you can retrieve the answer perfectly, your ability to retrieve it will probably fade as time passes without practising. Therefore you will need to keep going back to the questions that you have previously mastered and practising them again. However, each time you re-learn the answer, the memory will be stronger and will last longer than the time before.

What is a stimulus?

A stimulus is a change in conditions outside or inside the body.

What is the plural of stimulus?

The plural of stimulus is stimuli.

What is a gland?

A gland is a structure in the body which secretes something.

What is an endocrine gland?

An endocrine gland is a gland that secretes hormones.

Where do endocrine glands secrete hormones to?

Endocrine glands secrete hormones directly into the bloodstream.

What is the human endocrine system?

The human endocrine system - also known as the hormonal system - is an organ system within the human body which is used to coordinate responses to stimuli. The endocrine system is made up of all the endocrine glands in the body. Each endocrine gland releases a different hormone.

What are hormones and how do they work?

Hormones are chemicals which are secreted into the bloodstream by endocrine glands. An endocrine gland secretes its hormone in response to a particular stimulus. The hormone then travels around the body in the bloodstream and stimulates certain organs to carry out responses.

What is the name for the organs that a particular hormone affects?

The organs that a particular hormone affects are called the 'target organs' of that hormone.

What do the endocrine system and the nervous system have in common? What are the differences between them?

The endocrine system and the nervous system are both organ systems which the body uses to bring about responses to stimuli. They are different in the following ways:

- The endocrine system produces its effects more slowly, whereas the nervous system produces its effects more quickly.
- The effects produced by the endocrine system tend to last a longer time, whereas the effects produced by the nervous system tend to last a shorter time.

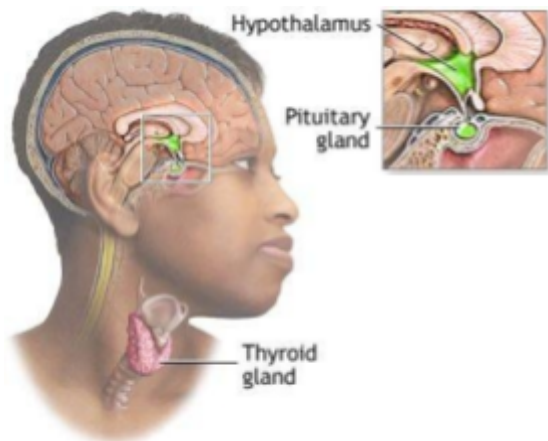
What are the main endocrine glands in the human body?

The main endocrine glands in the human body are:

- The pituitary gland
- The pancreas
- The thyroid
- The adrenal glands
- The ovaries (in women)
- The testes (in men)

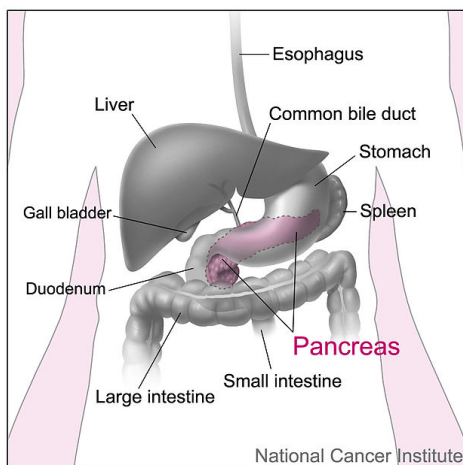
Where is the pituitary gland located in the body?

The pituitary gland is located at the bottom of the brain.



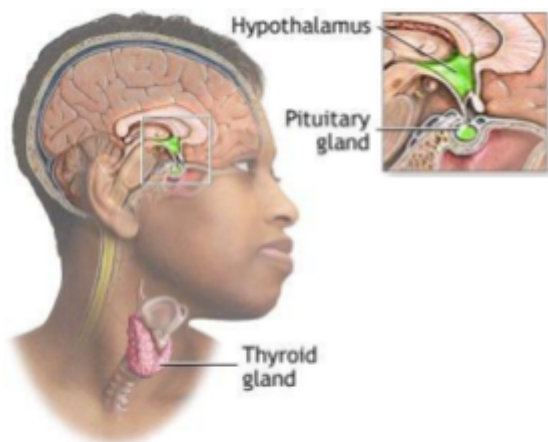
Where is the pancreas located in the body?

The pancreas is located in the abdomen behind the stomach.



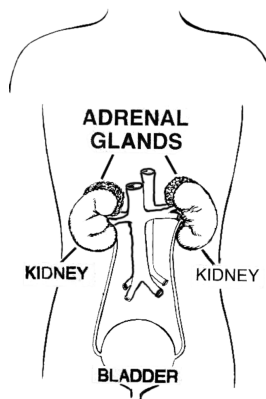
Where is the thyroid located in the body?

The thyroid is located in the neck.



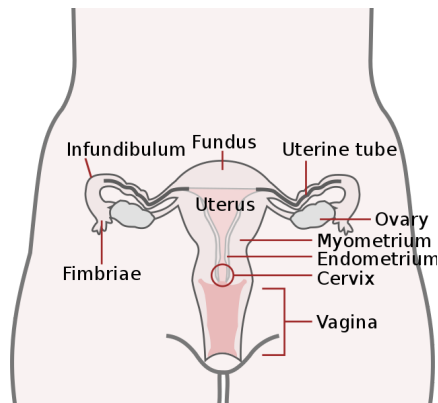
Where are the adrenal glands located in the body?

The adrenal glands are located directly above the kidneys in the abdomen. There are two adrenal glands - one above each kidney.



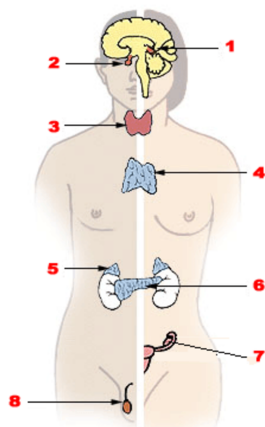
Where are the ovaries located in the body?

The ovaries are located in the female reproductive system. There are two ovaries - one of each side of the reproductive system.



Where are the testes located in the body?

The testes (also known as testicles) are located in the male reproductive system. There are two testes.



Number 8 in this diagram is one of the testes.

What is the role of the pituitary gland?

The pituitary gland acts as a master gland. It secretes several different hormones in response to particular body conditions. These hormones act on other endocrine glands. This stimulates these other endocrine glands to release other hormones which bring about effects in the body.