



Hormones that Control the Menstrual Cycle

KS4 BIOLOGY

HUMAN REPRODUCTION

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What Is the Menstrual Cycle?

The **menstrual cycle** is a monthly process that happens in the bodies of people with uteruses. It takes about **28 days** on average, though it can vary from **21 to 35 days**. During this cycle, the body prepares for the possibility of pregnancy. If pregnancy doesn't happen, the body sheds the lining of the uterus, which is called a **period**. This whole process is controlled by **hormones**—chemical messengers that tell the body what to do.

The Four Key Hormones

Four main **hormones** control the menstrual cycle: **FSH (follicle-stimulating hormone)**, **LH (luteinising hormone)**, **oestrogen**, and **progesterone**. These hormones are made in different parts of the body and send signals to each other like a team working together.

Think of it like a group chat between friends: one person sends a message, which makes someone else reply, which then tells a third person to do something. Each message changes what happens next.

FSH and LH: The Pituitary Messengers

FSH and **LH** are made by the **pituitary gland**, a tiny gland at the base of the brain. At the start of the menstrual cycle, **FSH** tells the ovaries (the female reproductive organs) to start making eggs and produce **oestrogen**. Around day **14** of the cycle, a surge of **LH** triggers **ovulation**—when an egg is released from the ovary.

Oestrogen and Progesterone: The Ovary Hormones

Oestrogen is made by the ovaries during the first half of the cycle. It makes the lining of the uterus thick and spongy, ready to receive a fertilised egg. After ovulation, the ovary produces **progesterone**, which keeps the uterus lining healthy. If an egg is

not fertilised, levels of both **oestrogen** and **progesterone** drop sharply. This drop triggers the body to shed the uterus lining, causing a **period**.

Think of it like decorating a room: oestrogen gets the room ready and nice, then progesterone keeps it tidy. When you decide you don't need the room after all, you clear everything out.

Why This Matters

Understanding these hormones helps explain why people with periods experience different feelings, energy levels, and physical changes each month. It also helps doctors treat problems like irregular periods or painful cramps. The menstrual cycle shows how powerful and clever the human body is at keeping itself balanced.