

Homeostasis

Define homeostasis.

Homeostasis **Supplement**

What is a set point?

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Describe negative feedback in one sentence.

Homeostasis

What does insulin do to blood glucose concentration?

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Which organ secretes glucagon?

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How does the liver respond to insulin and to glucagon?

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Outline the treatment of Type 1 diabetes.

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Name the skin structures involved in temperature control.

The normal level of a factor, such as blood glucose or temperature. Negative feedback returns the level to it.

The maintenance of a constant internal environment.

It decreases it.

A change away from the set point is detected and a response reverses it, bringing the level back towards the set point.

Insulin: glucose is converted to glycogen.
Glucagon: glycogen is converted to glucose and released into the blood.

The pancreas.

Hairs, hair erector muscles, sweat glands, receptors, sensory neurones, blood vessels and fatty tissue.

Insulin injections, monitoring blood glucose concentration, and controlling the diet (carbohydrate intake).

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How do sweating and shivering help control body temperature?

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What is vasodilation?

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What is vasoconstriction?

Widening of the arterioles supplying skin surface capillaries, so more blood flows near the surface and more heat is lost.

Sweating: evaporation of sweat cools the body. Shivering: muscle contraction releases heat from respiration.

Narrowing of the arterioles supplying skin surface capillaries, so less blood flows near the surface and less heat is lost.