

Living without leptin

This hormone helps tell us we're full

A very rare inherited condition causes children to suffer from severe hunger and overeating. Discovered in 1997, the condition is known as congenital leptin deficiency. It is due to faulty versions of a gene involved in the production of the hormone leptin.

Without leptin to signal to their brains that they are sated (full), these children live in constant hunger and find it extremely difficult to regulate their weight, usually becoming obese at a young age.

Leptin also plays a crucial role in puberty and fertility – children with congenital leptin deficiency do not go through puberty. Leptin, which is released from fat cells, acts to indicate to the brain the level of energy reserves. If leptin levels are low, the brain regards this as a signal that energy is limited and may delay the body's development. Studies in monkeys and humans suggest that leptin levels need to be higher in girls than in boys during puberty.

REFERENCES

- [Genetics of Obesity Study: What have we discovered?](#)
- [Congenital leptin deficiency](#)
- [Metabolic control of puberty: roles of leptin and kisspeptins](#)

ABOUT THIS RESOURCE

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