

Diabetes Key Information

Diabetes mellitus is a chronic metabolic disorder caused by the body's inability to regulate blood glucose levels effectively. It occurs when there is either insufficient production of insulin by the β (beta) cells of the pancreas (Type 1 diabetes) or when body cells become resistant to the effects of insulin (Type 2 diabetes). In both cases, blood glucose concentrations remain abnormally high (hyperglycaemia), which can lead to long-term damage to organs such as the eyes, kidneys, and nerves. Management involves insulin therapy for Type 1 diabetes and lifestyle changes or medication to improve insulin sensitivity in Type 2 diabetes. Understanding the physiological mechanisms behind diabetes provides insight into how hormonal control maintains homeostasis in healthy individuals.

Key words & definitions

Key word	Key information
Beta (β) cells	Cells in the islets of Langerhans in the pancreas that secrete insulin.
Diabetes mellitus	A chronic metabolic disorder in which the body cannot effectively regulate blood glucose levels.
Insulin	A hormone produced by beta cells in the pancreas that lowers blood glucose concentration.
Type 1 diabetes	A form of diabetes in which little or no insulin is produced due to destruction of beta cells.
Type 2 diabetes	A form of diabetes in which body cells become resistant to insulin or insufficient insulin is produced.
Insulin resistance	A condition in which body cells do not respond effectively to insulin.
Hyperglycaemia	Abnormally high blood glucose concentration.